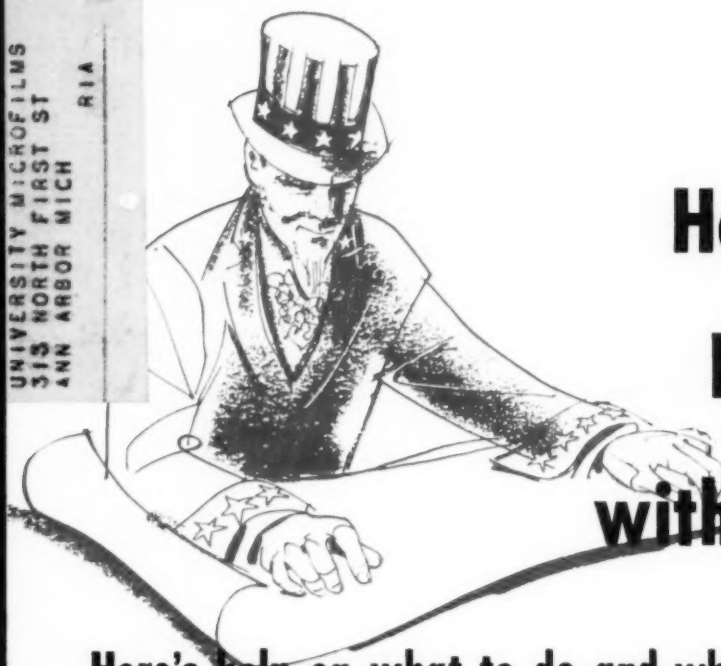


Commercial Refrigeration & Air Conditioning

February 1958

UNIVERSITY MICROFILMS
313 NORTH FIRST ST
ANN ARBOR MICH 48106
RIA



How to do Business with Uncle Sam

Here's help on what to do and whom to see in selling to...

DEPARTMENT OF THE AIR FORCE



COMING SOON

DEPARTMENT OF THE NAVY



COMING SOON

DEPARTMENT OF THE ARMY



COMING SOON

GENERAL SERVICES ADMINISTRATION



see page 37



INDUSTRIAL PUBLISHING CORPORATION MAGAZINE

Circulation now over 30,000

FIELD-PROVEN...RUGGED...QUIET...LOW-PRICED

ACCESSIBLE

4 H.P. and 5 H.P.



COPELAMETIC

**MOTOR-COMPRESSORS
GIVE YOUR EQUIPMENT
SUPERIOR PERFORMANCE**

The hottest news yet in cooling! That's the best way to describe these latest achievements of Copeland research and development. They are just what the industry needs for the big residential and commercial market utilizing these sizes.

These new compact Copelametic motor-compressors will

give all the long-time, carefree service traditionally engineered into every Copeland product. They're quiet, rugged, accessible. And, of course, they have been field-proven and are competitively priced. All single-phase models are inherent-protected—three-phase models available with external inherent-protectors.

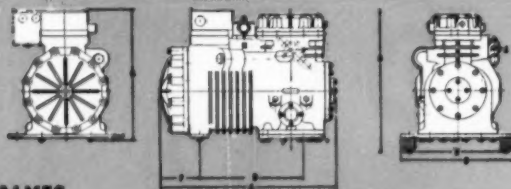
These motor-compressors are added evidence you can always count on Copeland.

SINCE 1918

Copeland

REFRIGERATION CORPORATION, Sidney, Ohio

SPECIFICATIONS AND CAPACITY DATA



DIMENSIONS AND SHUT-OFF VALVES

Model	H.P.	A (Max.)	B (Max.)	C	D	E	F	G	H—Suct. SOV		I—Discharge SOV	
									Tube O.D.	Type	Tube O.D.	Type
LRH-400	4	19 $\frac{1}{4}$ "	13"	16 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	11"	4 $\frac{1}{2}$ "	14 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	S	3/4"	S
LRG-500	5	19 $\frac{1}{4}$ "	13"	16 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	11"	4 $\frac{1}{2}$ "	14 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	S	3/4"	S

COMPRESSOR DISPLACEMENT, REFRIGERANT, OIL CHARGE, WEIGHT

Model	H. P.	Cyls.	Bore	Stroke	CFM Disp. @ 1750 R.P.M.	Refrig.	Oil Recharge	WEIGHT	
								Net	Shipping
LRH-400	4	2	2 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	698	R-22	5 $\frac{1}{2}$ pt.	236 #	253 #
LRG-500	5	2	2 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	815	R-22	5 $\frac{1}{2}$ pt.	236 #	253 #

CAPACITY DATA (BTU/HR.)

Model	Evap'g Temp.	Suct. Press.	DISCHARGE PRESSURE											
			170.1 #	183.7 #	197.9 #	212.9 #	228.7 #	245.3 #	262.8 #	280.5 #	298.3 #	317.9 #	338.0 #	359.7 #
			CONDENSING TEMPERATURE											
			90°F.	95°F.	100°F.	105°F.	110°F.	115°F.	120°F.	125°F.	130°F.	135°F.	140°F.	145°F.
LRH-400	45°F.	76.6 #	68625	66500	64375	62000	59895	57750	55375	53000	50875	48250	45875	43625
LRG-500	45°F.	76.6 #	78300	76000	73600	71500	69100	66900	64500	61900	59600	57500	55200	53000

Based on 65°F. Suction Gas Temperature and no Heat Exchanger.

Circle No. 1 on Reader Service Card

SPECIFY • INSTALL

ALCO

EVAPORATOR PRESSURE REGULATORS



Alco Evaporator Pressure Regulators accurately maintain evaporator pressure in either a single or multiple system, guaranteeing highest evaporator efficiency regardless of load changes.



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- BUY QUALITY
- BUY ALCO

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Straight out of TOMORROW
for your profit TODAY

...two *Fashion* -Styled Controls
by WHITE-RODGERS



the fabulous new

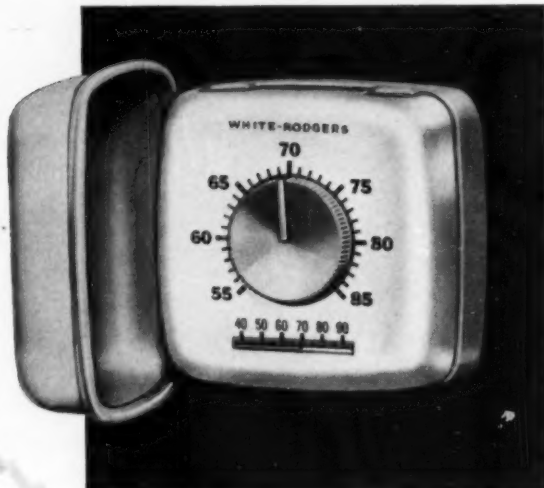
Fashion **PUSHBUTTON**
heating-cooling thermostat

PushButton, year-'round temperature control is now combined with the powerful, sales-motivating styling of the Fashion. Sub-bases to fit any heating-cooling system... backed by the name that's famous for quality controls... White-Rodgers!

the incomparable

Fashion **THERMOSTAT**

Styled to sell with the right shape
...the right color... smart hinged cover,
can be painted to match the wall, no
dials peek through. Ideal for replacement
of outmoded thermostats... inconspicuous
baseplate covers any spots left by
old-style controls.



Type 120-115: for Heating
Type 121-115: for Cooling
Type 125-115: Comb. Heat
& Cool (SPDT)

Both thermostats are equipped with latest design dial-type adjustable resistor... can be set to match any primary control

For full, profit-making details... contact your local White-Rodgers office — or write, wire or phone us today!



TEMPERATURE CONTROLS for MODERN COMFORT

WHITE-RODGERS

ST. LOUIS 8, MISSOURI

TORONTO 8, CANADA

Commercial Refrigeration & Air Conditioning

FEBRUARY 1958 • Vol. 15 • No. 2

35/It Works for Others—Why Not Try It?

Specialty selling methods prove effective for salesmen of such things as insurance and automobiles, so why should air conditioning dealers spurn them?

37/Want To Sell to Uncle Sam?

Here's help on where to go and who to see in selling air conditioning and commercial refrigeration to the General Services Administration, the agency that handles all installations in Government buildings for civilian use.

40/YOU'RE THE BOSS . . .continuing a significant 12-article series on how to run your business by George C. Webster, management consultant

PART 2—What Is Your Business Philosophy?—gives you some pointers on how to decide where you want to go, in a business sense, and what route you should take to get there.

42/Proper Paperwork Provides Control

. . . for coin meter merchandising operations in the commercial refrigeration field. If you're thinking of using a meter plan, you can't afford to miss this fact-filled article by one of the pioneers in this type of selling.

44/Show 'Em What They Get "For Free"

Here's how one commercial refrigeration distributor painlessly prepares his customers for service charges they'll face after the warranties expire.

47/Hot-Cold Tank System Improves Tower Operation

48/Something's Wrong with the Figures!

When the manufacturers themselves can't agree on heating-cooling load calculations, how can dealers and contractors do a conscientious and intelligent job of installing air conditioning products?

51/A \$1,000,000 Promotion

. . . is being placed behind this new house. Here's how the air conditioning industry figures to share in this blue-chip bonanza.

52/How Do You Rate with Your Customers?

There's a direct relationship between a contractor's ability to satisfy his customers and the volume of sales he produces. If your sales are slipping, you'd better check yourself on these 10 points.

55/Cooling Speeds Card Drying

This specialty printing firm licked hot weather slowdowns by adapting a standard room air conditioner to provide pinpoint dehumidification.

87/Moisture Control Can Cut Your Service Calls

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Introducing the **DOVER**

SILLOWETTE

COOLING TOWER

(5 to 150 ton capacities)



Series R

The Boldest Advance in Cooling Tower Design in Years!

BOLD New Appearance!

LOW SILHOUETTE . . . The Dover silLOWette is designed to hug the roof line in any installation . . . the type of design architects are demanding.

COLOR . . . That's right . . . color! For the first time, real BEAUTY in a cooling tower with white transite or colored plastic side panels. Available in a wide range of colors.

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AIR COOLED BEARINGS . . . Unique bearing arrangement gives longer life from bearings with less maintenance. External grease fittings make lubrication easy.

ALL PURPOSE UTILITY SUMP . . . Flushing and cleaning tower basin is fast and easy with Dover's exclusive new right angle sump.

FLANGE - ASSEMBLED CELLS . . . Towers larger than 150 ton capacities can be set-up easily and quickly at job site.

DOVER

MANUFACTURING COMPANY

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NEW, FREE FOLDER

Send today for your copy of the new Series R silLOWette folder. It's full of details, specifications and drawings of the New Dover silLOWette tower.

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Jenni Genetron says,

"HERE'S THE RIGHT REFRIGERANT FOR EVERY NEED!"



Selected Physical Data
(Performance based on 5°F evaporator temperature and 86°F condenser temperature)

genetron[®] SUPER-DRY REFRIGERANTS

Trichloromono-fluoromethane

Dichlorodifluoromethane

Monochlorodifluoromethane

Trichlorotrifluoroethane

Dichlorotetrafluoroethane



	11	12	22	113	114A
Chemical Formula	CCl ₃ F	CCl ₂ F ₂	CHClF ₂	C ₂ Cl ₃ F ₃	C ₂ Cl ₂ F ₄
Molecular Weight	137.4	120.9	86.5	187.4	170.9
Boiling Pt. (°F) at 1 Atm. Pressure	74.7	-21.6	-41.4	117.6	37.6
Evaporator Pressure at 5°F (p.s.i.g.)	24.0*	11.8	28.3	27.9*	15.6*
Condensing Pressure at 86°F (p.s.i.g.)	3.6	93.3	159.8	13.9*	22.7
Freezing Point (°F) at 1 Atm. Pressure	-168	-252	-256	-31	-76
Critical Temperature (°F)	388	234	205	417	294
Critical Pressure (p.s.i. absolute)	635	597	716	495	478
Compressor Discharge Temperature (°F)	112	101	131	86	88
Compression Ratio (86°F/5°F)	6.24	4.08	4.06	8.02	5.33
Specific Volume of Saturated Vapor at 5°F (cu. ft./lb.)	12.27	1.46	1.25	27.04	4.04
Latent Heat of Vaporization at 5°F (B.t.u./lb.)	84.0	68.2	93.6	70.6	60.2
Net Refrig. Effect of Liquid—86°F/5°F (B.t.u./lb.)	67.5	50.0	69.3	53.7	43.0
Specific Heat of Liquid at 86°F (B.t.u./lb.°F)	0.21	0.24	0.34	0.22	0.23
Specific Heat of Vapor at Constant Pressure of 1 Atm. & 86°F (B.t.u./lb.°F)	0.13	0.15	0.15	0.15	0.16
Specific Heat Ratio at 86°F & 1 Atm. (k=Cp/Cv)	1.14	1.14	1.18	1.09	1.01
Coefficient of Performance	5.09	4.70	4.66	4.92	4.60
Horsepower/Ton Refrigeration	0.927	1.002	1.011	0.960	1.025
Refrigerant Circulated/Ton Refrig. (lbs./min.)	2.96	4.00	2.89	3.73	4.65
Liquid Circulated/Ton Refrig. (cu. in./min.)	56.0	85.6	68.0	66.5	88.7
Compressor Displacement/Ton Refrig. (c.f.m.)	36.32	5.83	3.60	100.76	18.78
Toxicity (Underwriters' Laboratories Group No.)	5A	6	5A	4-5	6
Flammability & Explosivity	None	None	None	None	None

*Inches of mercury vacuum.

COMPARE! Careful control at every step in the manufacture of "Genetron" Super-Dry Refrigerants results in products of highest purity, which are extremely low in moisture content and other undesirable impurities. Quality of current production consistently surpasses the rigid manufacturing specifications for these products. Write for important informative folder "Genetron Super-Dry Refrigerants."

SEE YOUR WHOLESALER

or write or call

genetron DEPARTMENT

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.



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FROM ANY ANGLE...
there is no substitute for
SPORLAN 'G' VALVE
PEAK PERFORMANCE!



*from Strainer
to Outlet...*

*...from Element
to Seal Cap...*

SPORLAN 'G' VALVES ARE YEARS AHEAD
... in design and serviceability.

Ask your wholesaler for
literature... and include
Sporlan Catch-Alls, See-Alls
and Solenoid Valves
with your G Valve order.

Get Peak Performance
Right Down the Line!

More engineering features are incorporated
in them than in any other valve...
yet the basic design has never changed!

SPORLAN "C" CHARGE

for Suction Temperatures Above ZERO...

SPORLAN "Z" CHARGE

for Suction Temperatures Below ZERO...

and SPORLAN "X" CHARGE

for Extremely Low Temperatures, have long since proved that

ONLY SPORLAN SELECTIVE CHARGES
can give you Peak Performance on all applications!

So... from any angle, on any refrigeration application, there
is no substitute for Sporlan G Valve Peak Performance!

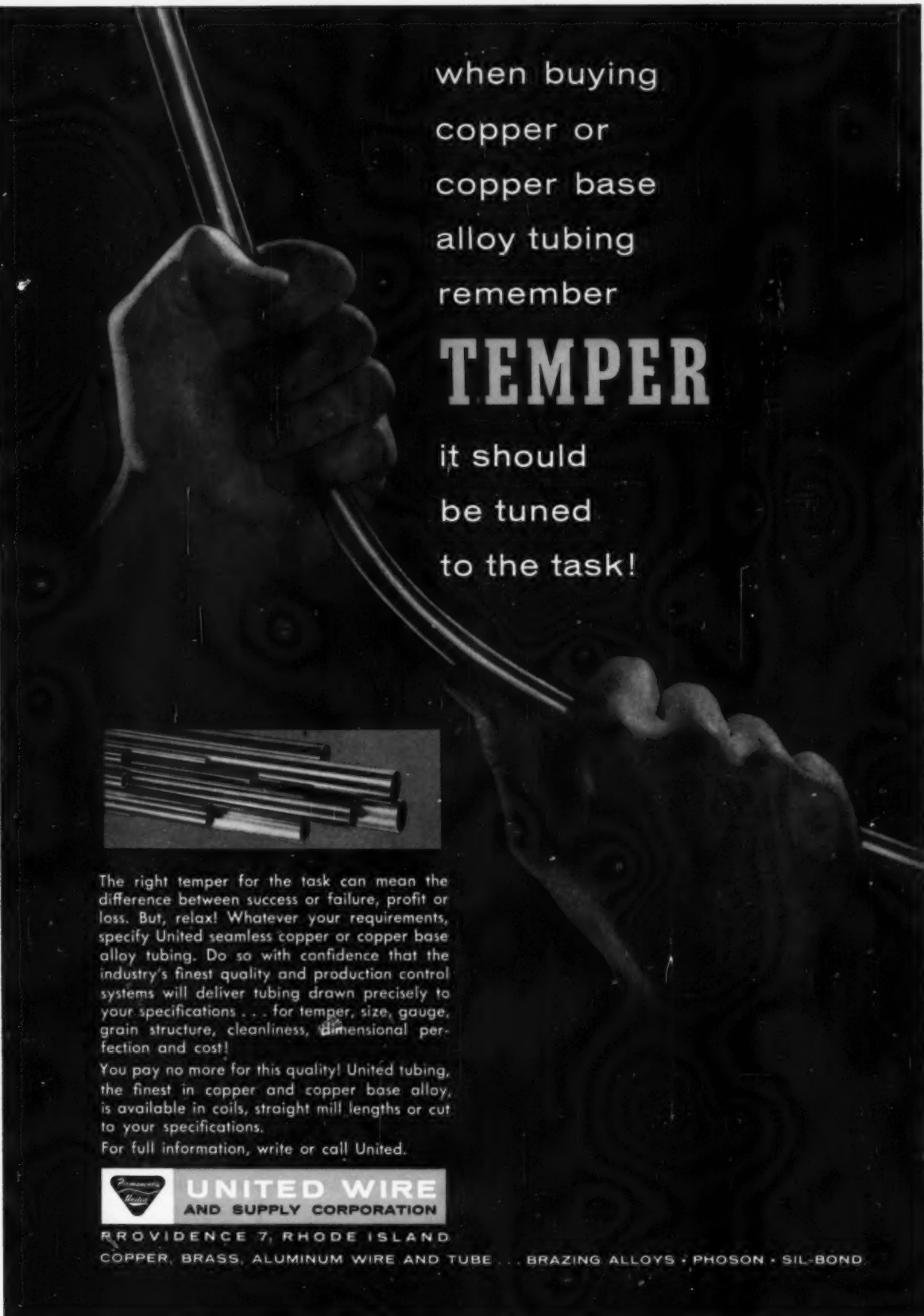


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when buying
copper or
copper base
alloy tubing
remember

TEMPER

it should
be tuned
to the task!



The right temper for the task can mean the difference between success or failure, profit or loss. But, relax! Whatever your requirements, specify United seamless copper or copper base alloy tubing. Do so with confidence that the industry's finest quality and production control systems will deliver tubing drawn precisely to your specifications . . . for temper, size, gauge, grain structure, cleanliness, dimensional perfection and cost!

You pay no more for this quality! United tubing, the finest in copper and copper base alloy, is available in coils, straight mill lengths or cut to your specifications.

For full information, write or call United.



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AND SUPPLY CORPORATION**

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COPPER, BRASS, ALUMINUM WIRE AND TUBE . . . BRAZING ALLOYS • PHOSON • SIL-BOND

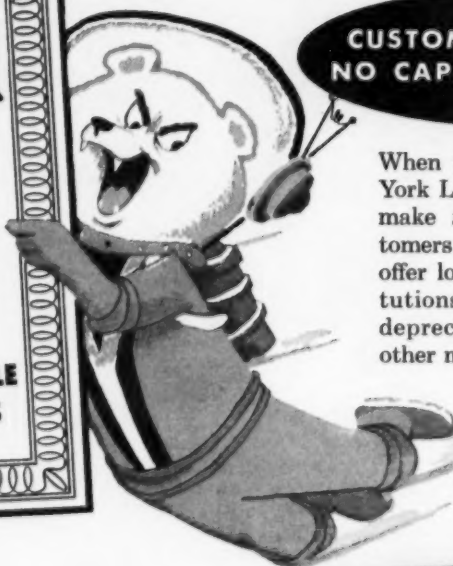
NEW WAY TO SELL COMMERCIAL AIR CONDITIONERS

**Ups Your Sales and Profits
Because...**



**CUSTOMERS NEED MAKE
NO CAPITAL INVESTMENT!**

When you sell air conditioners the York Lease Plan Way you sell *more*, make *more* because you offer customers *more* for their money! You offer longer term than lending institutions...savings on taxes...rapid depreciation write-off...dozens of other money-saving benefits!



'58 YORK Self-Contained AIR CONDITIONERS

May be installed singly or in multiple to fit the special needs of any size or type business. No special foundations required, no need to tear the building apart. Installs quickly, easily—without interrupting business routine.

**YOU GET PAYMENT IN
FULL IMMEDIATELY!**

When you sign up a customer, you simply turn over the lease and title to our lease company and get cash on the line in return—immediately! You never worry about slow-paying customers, bad debts, service! Call your York Distributor for full details, today!

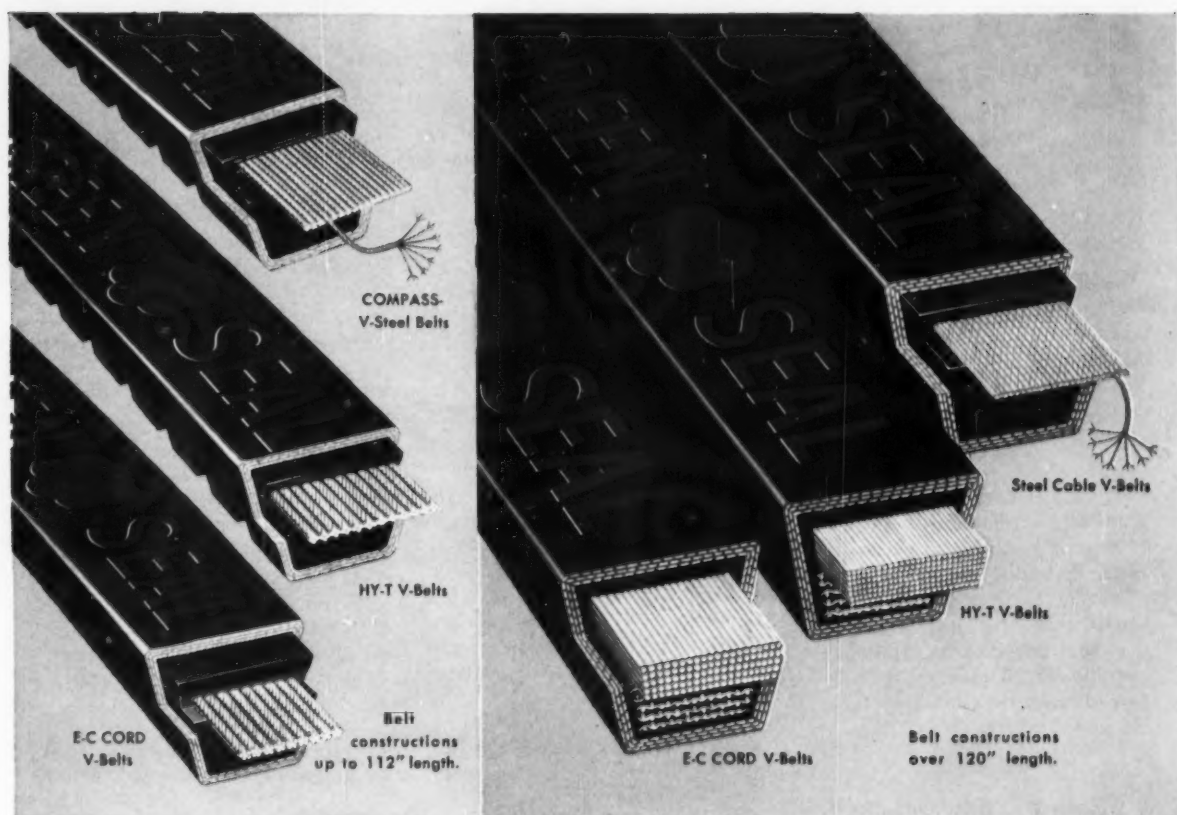
**Your FUTURE and FORTUNE
Now Lies With York!**



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FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

Do you know the inside story of **V-Belts with the Green Seal?**



Until recently dimensional stability was possible only in V-Belts with steel load-carriers as developed by Goodyear. But now you can have that stability in a complete line of belts — thanks to the development of Triple-Tempered (3-T) cord—synthetic cord tempered by Tension, Temperature and Time.

What's your pay-off from this dimensional stability?

When you're belting multiple drives, it's your one guarantee that every set of matched belts will *really* match. No matter how long you store them, they'll *stay* matched, too.

And once they're installed, you've got belts designed

and built to work as a perfect team—without individual belts either “loafing” or overworking. In fact, you're protected from all the usual mismatching headaches that also include slipping, stretching, scorching.

In other words, you're belted for maximum trouble-free horsepower hours at minimum cost. There's no substitute for that kind of performance — or for the V-Belts with the Green Seal that give it to you — every time.

So see your dealer about the V-Belts with true dimensional stability—the V-Belts with the Green Seal. Or write Goodyear, Industrial Products Division, Lincoln 2, Nebraska, or Akron 16, Ohio.

DIMENSIONALLY STABLE V-BELTS
with the **GREEN SEAL** by

GOODYEAR

THE GREATEST NAME IN RUBBER

Compass, E-C Cord, Hy-T, Green Seal—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Watch “Goodyear Theater” on TV — every other Monday 9:30 P.M., E.S.T.

ABOUT PEOPLE

American Automatic Ice Machine Co., a subsidiary of McQuay, Inc., has announced the election of **M. E. Bailey** as a vice-president of the company. Bailey has been associated with McQuay and

American Automatic Ice Machine Co. since 1943. Since 1950, he has been associated with the Fairbault, Minn., plant, as assistant general manager and assisting in automatic ice maker sales.

Square D Co. has appointed **Paul A. Christenson** to the newly created post of works manager in the expanded operations of the industrial controller division. Christenson, who has been production manager of the Milwaukee operations, will plan and coordinate all manufacturing operations. He joined Square D in 1943.

Harold F. (Duke) Hildreth has been elected president and general manager of O. A. Sutton Corp., Inc. Hildreth, who assumed his new position Jan. 2, also will serve on the firm's board of directors. O. A. Sutton himself, while turning over the presidency to Hildreth, remains as chairman of the board and chief executive officer. For the past 20 years, Hildreth has held various executive positions with Westinghouse Electric Corp., most recently serving as manager of the refrigeration specialty division and executive assistant to the manager of the Springfield, Mass., plant. He is a

past president of Refrigeration Equipment Manufacturers Association and for the past two years has served as a director and a member of the advisory committee of Air-Conditioning & Refrigeration Institute. He also is chairman of the executive committee of the room air conditioner section of the Air-Conditioning & Refrigeration Institute.

Three new personnel changes have been announced by Betz Div. of Bohn Aluminum & Brass Corp. **Frank Palmer** has been named production engineer. Manager of quality control is **Ray Schwichtenberg**.

Philip T. Miner has been assigned as representative in Oklahoma and Texas. Palmer has had 20 years experience in all phases of the industry. Schwichtenberg has dealt with inspection and quality control for eight years. Miner heads a Dallas firm which bears his own name.



P. Miner

A. Schwichtenberg

Appointment of **Frank May** as factory representative specializing in the new TMC molecular sieve filter-driers is announced by Tube Manifold Corp., North Tonawanda, N. Y. May will cover the wholesale, retail, and contract trade in the St. Louis area.

R. M. Frink has been named to the newly created post of director, new products division of Wolverine Tube Div., Calumet & Hecla, Inc. **E. C. Walter** is the new director of operations. These two



R. Frink

E. Walter

functions now are separate divisions. Frink has been with Wolverine since 1939. Walter, with the firm since 1954, previously was vice president and general manager of Viking Copper Tube Co. for five years.

Three sales changes have been made by Trane Co. **Hubert Gangl Jr.** has been assigned as sales engineer to the company's Knoxville, Tenn., sales office. **David L. Jessee** has been appointed to the branch office in Columbus, Ohio. **Robert R. Williams** has been named as a sales engineer to the Pensacola, Fla., branch.

Sporlan Valve Co. has announced the appointment of **Terry J. Allen** as a sales engineer. Allen will work with Jack Dannels out of Sporlan's Cincinnati office. Prior to joining Sporlan, Allen worked for Cincinnati



Air Conditioning Co., as a design engineer.

McIntire Co. announces the appointment of the following sales representatives for its line of driers, filters, strainers, and accessories: **Ray Hactor**, working from Memphis, will cover Mississippi, Louisiana, Arkansas, and western Tennessee. Kindred Engineering Co. of Dallas, with two men, will cover Oklahoma and

WANTED:

AGGRESSIVE DISTRIBUTORS WHO CAN'T AFFORD TO WAIT!

Crystal Tips

Distributors are

selling 63% more ice makers
than ever before . . . can you
afford not to find out why?

Models illustrated reading
clockwise from top: B-300-B,
B-300-B, B-200-B. Capacities
up to 1/4 ton per day.



The fastest selling ice makers on the market today are Crystal Tips 2-in-1 Ice Makers. Why? Because automatic ice making is here and Crystal Tips has the features customers want. Now is the time to cash in on this vast market!

From the standpoint of design, engineering and attractive prices with high distributor profits, no other ice maker on the market can match Crystal Tips.

We want aggressive dealers now. If you are not satisfied with the profits you are getting from the line you are now handling or if you are not handling a line of ice makers and want more facts about a Crystal Tips distributorship, write us today.

First Name in Automatic Ice Makers

AMERICAN
AUTOMATIC ICE MACHINE COMPANY

1872 Fourth Street N. W. Faribault, Minnesota

A Division of McQuay, Inc.

IT PAYS TO BE A CRYSTAL TIPS DISTRIBUTOR



Texas. **Art Johnston** of Portland, will cover Washington, Oregon, Montana, Utah, Alberta, and British Columbia.

H. Wells Williams has been appointed consultant for the engineering and research department and **E. S. Spangler** as manager of heating elements engineering for National-U.S. Radiator Corp. Williams formerly was manager of heating elements engineering and Spangler was a product engineer.

Three new staff appointments have been announced by Airtemp Construction Div. of Chrysler Corp. **Joseph S. Topp** has been named manager of construction West Coast zone, headquarters Los Angeles. The post Topp fills was created when the division established six new zone offices throughout the country. He has been associated with Airtemp in sales and engineering capacities since 1947. **S. Edward Hicks** has been named to succeed Topp as manager-contract and order adminis-

tration, construction division. Hicks formerly was associated with York Corp. **Kenneth F. Goldmann** has been named manager-field sales, construction division. Goldmann, whose headquarters will be Dayton, formerly was associated with Worthington Corporation.

Four promotions in the Machinery & Systems Div. of Carrier Corp. have been announced. **William H. Macdonald** has been named assistant manager of the machinery department, a new post. **Frank M.**

Fives succeeds him as product specialist of industrial air and gas compressors at the firm's home of-



W. Macdonald



F. Fives

C. Shields

fice in Syracuse. Fives was senior sales engineer for this equipment in the New York regional office. **Clark T. Shields** will move from the Chicago office to take over sales of these products throughout the northeast. **Thomas S. Campion** has been assigned manager of the San Francisco district office for the division.

Carl E. Cannon has been appointed assistant to the merchandising manager of the Westinghouse air conditioning division, Stanton, Va. Cannon will be in charge of the division's training program for company sales personnel and distributors.

Three new sales engineers have been announced by American Blower Div. of American-Standard. **George T. Sonntag** has

The
answer
to those
difficult

Leaks
IN
REFRIGERATING
SYSTEMS



Look for the new Leak Lock counter display box at your wholesalers, and let it remind you that Leak Lock is a "must" in your service kit.



FOR GASKET SURFACES, PIPE THREADS, ETC.

Leak Lock was developed primarily for refrigeration system use, and it functions perfectly in holding "Freon", Methyl Chloride, Methylene Chloride, Sulphur Dioxide and Oils. The plastic base of Leak Lock means that it is flexible in following expansion or contraction without breaking the film. This film never hardens, but stays "alive" and elastic and, therefore, is not affected by vibration.

Leak Lock is tacky and sticky enough to hold on to any surface, including all metals, cork, asbestos, plastics, etc. Nor is it affected by temperature... perfect sealing is maintained, not only on hot compressor joints, but also on chilled surfaces. Another decided advantage is that it is not necessary to clean surfaces before applying, since the adhesive qualities of Leak Lock are not affected by dirt, carbon, sludge, oil, old sealers or chemicals.

During the past eight years Leak Lock has met with a hearty welcome from refrigeration service engineers, since it saves them time and unnecessary headaches.

HIGHSIDE CHEMICALS INCORPORATED
4 COLFAX AVENUE. CLIFTON, N. J.

Leak Lock
JOINT
SEALER

Circle No. 12 on Reader Service Card

been named sales engineer in the Salt Lake City office. Appointed sales engineer for the Los Angeles office is **Jeffrey R. Singer**. **Roy O. Rose** is the new sales engineer in the Tulsa office.

A reorganization of the sales section of Janitrol Heating and Air Conditioning Div. of Surface Combustion Corp. has been announced. Named to new positions are **C. C.**



C. Owen

L. Sutherland

Owen as national field sales manager and **L. W. Sutherland** as manager of product planning and engineering services. Owen previously served as assistant sales manager, Western Div.

James R. Strother has joined Flexonics Corp. as assistant sales manager for Industrial Hose Products. Strother was Chicago regional manager for Aeroquip Corp. prior to joining the general sales staff of Flexonics.

P. F. Canavan Jr. has been named vice president and general manager of Connor Engineering Corp. Canavan formerly was production manager.

W. C. Coleman, 87, founder and chairman of the board of directors of Coleman Co., Inc., died recently in Wichita, Kans. The company he founded at Kingfisher, Okla., in 1900, is a leading manufacturer of heating and air conditioning equipment with factories in Wichita, LaPorte, Ind., Toronto, Canada and Nijmegen, Holland.

John F. Van Dam has been named to the newly created post of Los Angeles works manager of Peerless Pump Div., Food Machinery & Chemical Corp. Van

COMPLETE LINE

TAYLOR-BURCH

packaged

COOLER UNITS



Here is the complete line of **packaged** cooler units for all installations and conditions. **FREEZERS • COOLERS • ICE HOLDING UNITS** All are absolutely automatic in operation—merely set controls at desired operational temperature. . . . Defrosting is automatic. Installation is simple and easy — requires no technical knowledge or tools — no lost floor space. The entire electrical system is encased and the gas and oil charge are hermetically sealed in.

MODELS AVAILABLE IN TEMPERATURE AND HUMIDITY FOR ALL APPLICATIONS

All models are adaptable to single or multiple installations and all machines are designed to operate in extremely high temperatures.

Dealer Inquiries Invited

Write for detailed specifications.

TAYLOR-BURCH

REFRIGERATION PRODUCTS INC.

2524 BROOKLYN ROAD

JACKSON, MICHIGAN

WE SPECIALIZE IN DEVELOPMENT AND DESIGN OF SPECIAL REFRIGERATION EQUIPMENT AND THE MANUFACTURE OF PARTS AND SUB-ASSEMBLIES FOR PRODUCTION RUNS

Dam moves up from production manager. He now is responsible for supervising works manufacturing, accounting, industrial rela-



J. Van Dam

F. Widener

tions, and all engineering activity. **Floyd W. Widener**, Los Angeles factory manager, has been given the additional duties of advising on production matters.

John L. Anderson has been appointed manager of the newly opened Chicago office of American Potash & Chemical Corp. Two sales representatives also have been named for the new office. They are **Edward C. O'Connor** and **Wallace O'Dowd**.

Thompson Everingham has been named advertising manager of Kerotest Mfg. Co. Everingham will handle all advertising for both the Brass and Steel Divs.

Anthony J. De Fino has been elected vice president of Hupp Corp. De Fino joins the corporation after serving since October, 1955, as vice president and general manager of the All-Year Air Conditioning Div. of



Servel, Inc. Previously he was vice president and general manager of the Buffalo Div. of Fedders-Quigan Corporation.

Gordon M. Parker, formerly advertising manager of Timken Silent Automatic Heating & Cooling Div. of Scaife Co., has been appointed merchandising manager of York-Shipley, Inc.

Virginia Smelting Co. has appointed **Victor C. Walling**, Kirkland, Wash., to its sales staff. Walling will represent the industrial, refrigeration and aerosol sales departments in Washington, Oregon, Idaho, Montana and Utah.

Joseph J. Decker has been appointed president of the Air Conditioning Div. of American-Standard. Decker has been manager of commercial development.

Frick Co. announces that **Lawrence L. Diener** has been assigned to its branch office at Pittsburgh, Pa. Diener is an engineer with extensive experience in the refrigeration field.

Michael H. Pelosi Jr. has been appointed manager of engineering and development division for United States Air Conditioning Corp. The firm also has announced that **Thomas Tisdell** now is assistant service manager.



M. Pelosi Jr.

Pelosi most recently served as chief engineer at Bryant Air Conditioning Corp. Tisdell has been promoted from national field service engineer.

Fred Jacobs, one of the pioneer developers of built-in-wall air-conditioning units, has been appointed chief engineer of the I. W. Air Conditioning Corp., subdivision of I. Wenig & Sons, Inc. Jacobs was chief engineer of Amic Mfg. Corp. for a number of years.

Claude C. Kirk has joined Fedders-Quigan Corp. as district sales manager for the firm's line of room air conditioners. He will cover Alabama, most of Tennessee, and northwest Florida. He will make his headquarters in Birmingham, Ala., and report to regional manager F. G. Stock. He succeeds the late Glenn Didcott.

Vincent P. Gregg has been appointed manager of marketing for the General Electric Co.'s Specialty Motor Dept.

Payne Co. has appointed **Dick Judson** as a new factory sales en-



gineer in Pacific northwest area. Judson will be responsible for all sales and field engineering in Oregon and southern Idaho. He formerly was associated with Electro-Watt, Inc., a Payne distributor.

Adm. Arthur W. Radford, former chairman of the joint chiefs of staff, has been elected a member of the board of directors of Worthington Corp.

David Brody has been named general manager of Philco Distributors, Inc., Philadelphia. Brody joined Philco in 1945 as a salesman in Philadelphia.

Formation of a division to handle products applicable to the air conditioning field has been announced by Industrial Acoustics Co., Inc. **Charles N. Rink** is heading the new department. Rink was a manufacturer's agent for 10 years prior to joining the firm.



Peter H. Lauer has joined Flexonics Corp., Maywood, Ill., as controller, succeeding Walter J. Wall, who has resigned.

Frank K. Platt, president of Air Engineering Co., Kalamazoo, Mich., has been named to the newly created post of central regional manager for all products of American Air Filter Co., Inc.



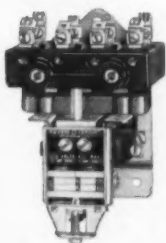
SQUARE D GIVES YOU ALL 3!



Magnetic Starters



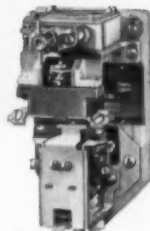
Safety Switches



Control Relays



Fractional HP Starters



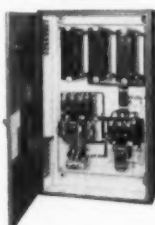
Timing Relays



Combination Starters



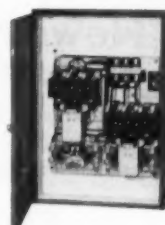
Panelboards



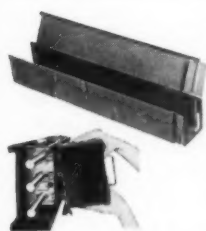
Primary Resistance
Type Starters



Auto-Transformer
Type Starters



Part Winding
Type Starters



Wireways and
Busways



Pushbuttons and
Accessories

• You name the air-conditioning job—Square D has the right electrical equipment for it—from the smallest residential installation to the largest commercial or industrial job through 500 HP at 440 volts.



NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY



ERECTA SHELF is ideal for wine and liquor storage. Off-the-floor for easy cleaning, safe, convenient, attractive. Corrugated bracing serves as a curb.

Everything in its place on ERECTA SHELF. Adjust shelf height to suit the product. One man can erect a 5-shelf unit in 10 minutes. Metal clips lock units together.

OPEN **New** PATHS OF **Profit** WITH ERECTA SHELF...

Newest, Sturdiest Shelving ON WHEELS OR OFF

ERECTA SHELF answers an ever-present need for more space within existing area. Better organized storage means more efficient operation along the line.

Designed primarily for cooler and backroom storage, ERECTA SHELF is the durable, all-metal shelving of a 1000 uses. *Each of these uses is your avenue to revenue.*

ERECTA SHELF IS EASY TO SELL

- ... *Goes Up in Minutes*—needs no nuts or bolts; can be quickly dismantled and rearranged to suit.
- ... *Unparalleled Strength*—each shelf will support up to 1000 pounds!
- ... *Rugged Steel Rod Construction* — plus corrugated steel bracing give these shelves their superior strength.
- ... *Carefree Maintenance*—unaffected by heat or cold; can be hosed down for easy sanitation. Heavily plated or stainless steel.
- ... *Designed for Flexibility*—shelves are adjustable at 5-inch intervals, accommodate items in all sizes, weights and shapes.
- ... *Economical ERECTA SHELF*—is priced way under any shelf that will do a similar job.

YOUR PROSPECT WANTS ERECTA SHELF FOR

Equipment Storage — everything from food cartons to compressors.

Walk-In Cooler Storage — all perishables from meats to milk.

Staple Storage — from the smallest to the tallest, from a half-ounce to a half-ton.

and more

Versatile ERECTA SHELF, now also available **on wheels**, is more adaptable, more useable than ever! Write today for facts and figures on ERECTA SHELF — your map to new paths of profit.

ERECTA SHELF

Sani-Stack

quality products of

METROPOLITAN WIRE GOODS CORP.
N. WASHINGTON ST. and GEORGE AVENUE
WILKES-BARRE, PA.

Circle No. 15 on Reader Service Card

add to your client's comfort with

MOTORPUMP

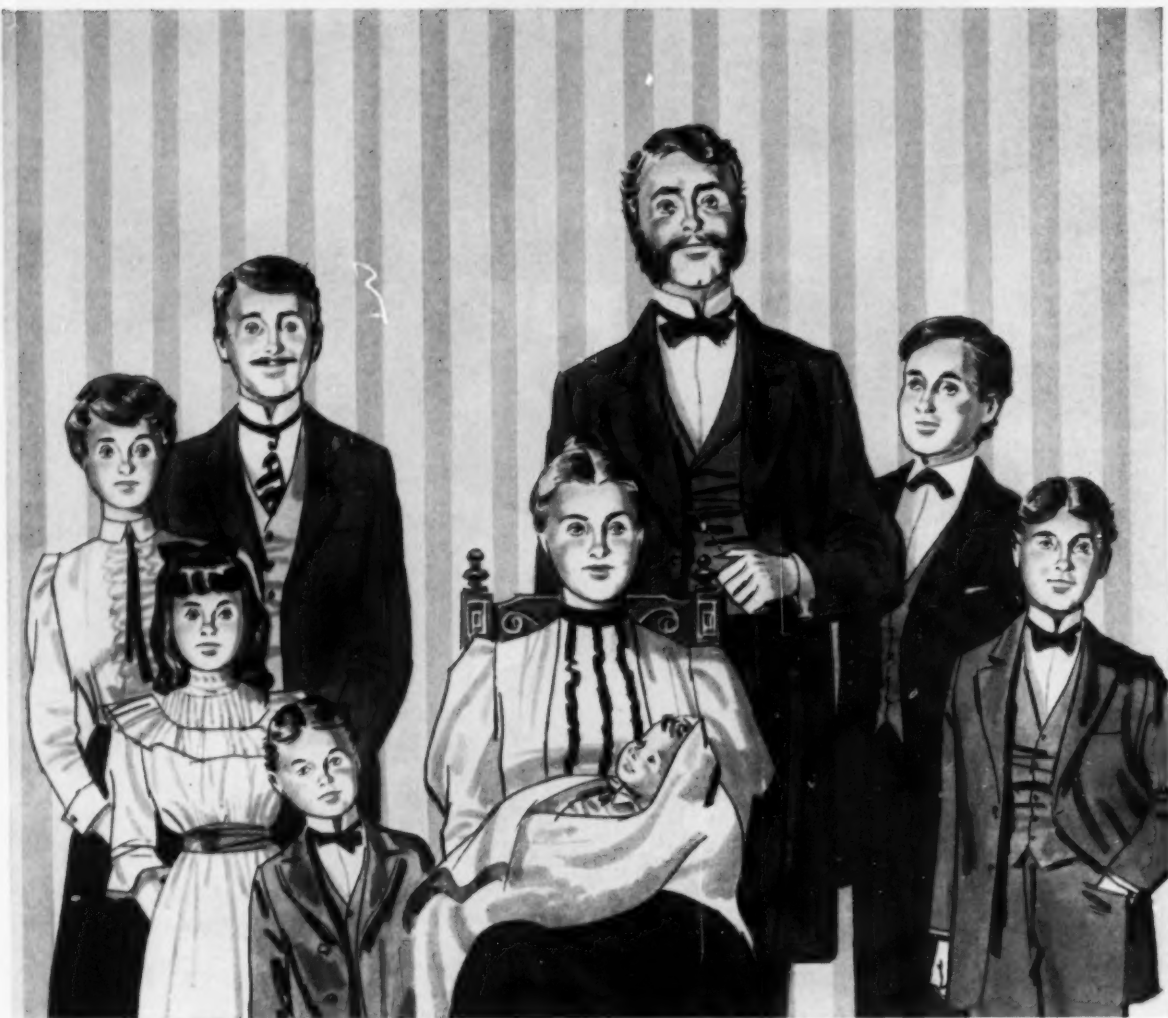
reliability

Motorpumps are available from
1/4 to 75 horsepower. Latest
booklet on Motorpumps for Air
Conditioning is 7295. Write
for your copy today.

When an air conditioning system comes into the picture with a regular load, your clients are sure of getting complete satisfaction. Ingersoll-Rand Motorpumps — the most efficient in air conditioning — are compact, save space, and operate in any position without any vibration. These compact units are in operation in many thousands of varied installations — providing important savings through high operating efficiency and minimum maintenance.

You can make certain your air conditioning installation continues to give your client your satisfaction by installing an Ingersoll-Rand Motorpump. They are made in every size and type you need.

Ingersoll-Rand



FAMILY DOING VERY WELL . . . THANK YOU

Since we recently celebrated an anniversary, we've been asked how *our* family is doing.

The facts are that the thriving Bendix-Westinghouse "family" of compressors and condensing units is enjoying a lot of success.

More and more of the larger manufacturers and wholesalers in the air conditioning and refrigeration industry are switching to Bendix-Westinghouse. And, frankly, one big reason they're switching is that our satisfied customers are telling the industry these compressors "have what it takes".

Based on *their own* tests and field experience, these

customers have proved our compressors the most consistently reliable in the industry. This is understandable, since a rigid quality control program is being aggressively maintained by our fine engineering and manufacturing organizations.

For the success we've been experiencing, our thanks. If you happen to be one of those who hasn't yet tried Bendix-Westinghouse, ask any of our customers what they think of our compressors. We know their answers will convince you that we should be considered as your source.

Bendix-Westinghouse

EVANSVILLE, IND.

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio • Export Sales: Bendix International, 205 E. 42nd St., New York 17, N.Y.

Circle No. 17 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

Break the **BARRIER** and close the sale



A service offered through subsidiaries of
Commercial Credit Company, Baltimore . . .
Capital and Surplus over \$200,000,000 . . .
offices in principal cities of the United States
and Canada

Most of your prospects need their cash reserves and usual lines of credit for current operations. Break through this financial barrier. Make it easier for the prospect to sign on the dotted line by including financing arrangements. COMMERCIAL CREDIT's Refrigeration Plan is backed by many years' experience in your industry—experience in handling financing for thousands of commercial refrigeration and air conditioning installations.

Let us show you how COMMERCIAL CREDIT experience and know-how saves you time and money . . . and helps you close sales with less delay. Call our office in your city, or write COMMERCIAL CREDIT CORPORATION, 300 St. Paul Place, Baltimore 2, Md.

**Make your proposals complete . . . include
financing with COMMERCIAL CREDIT PLAN**

Circle No. 18 on Reader Service Card



I recommend American Blower
Packaged Air Conditioners
to my customers. *Here's why...*



There's a unit for every business and they're built to last!

With a complete range of sizes, both air and water cooled — competitively priced, I can fill exact air-conditioning needs . . . whether for a factory, office or store.

These units have the quality long associated with American Blower products. Each one is ruggedly built and skillfully designed for years of trouble-free performance.



They're easy to install

Just simple connections to either type unit. Air cooled — suitable for indoors or outdoors, with or without duct work. All units are easy to clean and service.



There's sales help when needed

American Blower has 73 branch offices well-staffed by trained sales engineers who are ready to help in unit selection on large air-conditioning surveys.

American-Standard, American Blower Division, Detroit 32, Michigan
It pays to install American Blower Packaged Air Conditioners



AMERICAN-Standard

AMERICAN BLOWER DIVISION

Circle No. 19 on Reader Service Card

You've got the PLACE... We've got the PLAN!



Silent Salesman Display
Stand Brings You Extra
Profits Selling



Replacement
Motors

Just a few square feet of floor space . . . and you're in the motor business . . . right now! This handsome, sturdy display stand will help you add profit without additional work. It's FREE with the first assortment of Century Performance-Rated Motors.

There's a growing demand for replacement motors. Take advantage of this increasing demand for such applications as blowers, pumps, compressors, and other types of equipment! It's easy to supply your customers with precisely the right motors for their needs . . . because you can select from Century's complete range of sizes, types, speeds, frame and torque characteristics.

Your nearby Century Authorized Distributor will be glad to help provide you with fast, efficient service and the necessary stock to meet your needs.

mail this
coupon today
for full details

CENTURY ELECTRIC COMPANY, 18th and Pine Sts., St. Louis 3, Mo.

Send me all the facts about Century's Display Stand Motor Selling Plan.

Name.....

Company.....

Address.....

City..... Zone..... State.....

Performance-Rated[®]
MOTORS
1/20 to 400 HP



CENTURY ELECTRIC COMPANY

CE-119

18th and Pine Sts. • St. Louis 3, Missouri • Offices and Stock Points in Principal Cities

Circle No. 20 on Reader Service Card

& AIR CONDITIONING • FEBRUARY, 1958

21

**For simplified
installation... select**

select

heat-x

AIR COOLED PACKAGE CHILLERS

REMOTE CONDENSING UNIT ASSEMBLIES

No selection problems or engineering headaches with these reliable HEAT-X units! No components to match and assemble. Simply pick the unit you need for the capacity required. Each unit is complete, pre-engineered, "packaged".

'ARPC' AIR COOLED PACKAGE CHILLERS are designed primarily for residential and light commercial air conditioning applications. Furnished with 2, 3 or 5 HP compressors, Inner-Fin air cooled condensers, water chillers, superheaters and all necessary controls. Chiller is of patented Inner-Fin construction with all copper and brass water passages, completely eliminating the rust problem.

'RCU' REMOTE CONDENSING UNIT ASSEMBLIES are designed for use with remote direct expansion coils and consist of 2, 3 or 5 HP compressors, Inner-Fin air cooled condensers, superheater and all necessary controls.



ALL UNITS FEATURE:

Condenser of air cooled type with high efficiency Inner-Fin coil.

Superheater-Heat Interchanger of exclusive Inner-Fin construction which combines the advantages of the heat interchanger with the additional advantage of a superheater—insuring full use of the evaporator surface for cooling. Additional liquid subcooling improves overall system performance.

Cabinet finished in blue aluminum paint, suitable for indoor or outdoor installation.

Request Catalog No. 8027 containing complete specifications.

HEAT-X, Inc.

SUBSIDIARY OF DUNHAM-BUSH, INC.

BREWSTER • NEW YORK

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER

WEST HARTFORD, CONNECTICUT * MICHIGAN CITY, INDIANA * MARSHALLTOWN, IOWA

RIVERSIDE, CALIFORNIA • BRUNNER DIVISION, UTICA, NEW YORK
SUBSIDIARIES

heat-x HEAT-X, INC. BREWSTER, N.Y. **MAUNFORD** THE BRUNNER CO. GAINESVILLE, FLA. **DUNHAM-BUSH** DUNHAM-BUSH (CANADA), LTD. TORONTO, CANADA

 DUNHAM-BUSH, LTD. BOVAIRD BOVAIRD CORPORATION (CANADA) LTD.

LONGDON, ENGLAND

Circle No. 21 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

THE MUELLER BRASS CO. ALL NEW

Sightmaster

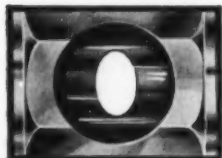


THE MOST VERSATILE EASY-TO-READ LIQUID INDICATOR YOU CAN BUY

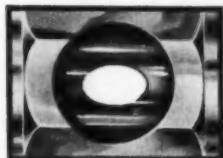
Now you can get a Liquid Indicator loaded with deluxe features at an economy price. The versatile new Sightmaster is exceptionally rugged and has withstood test pressures over 500 p.s.i. . . . far exceeding normal operating conditions. The spring compensated "O" rings maintain a constant leakproof seal, and automatically adjust to any variation of temperature or pressure . . . it just can't leak. Straight-thru design eliminates pressure drop. Sightmaster incorporates a positive light refraction method of reading . . . there are no moving parts or fragile devices to get out of adjustment. Write today for additional information and see Sightmaster's outstanding features for yourself at your wholesaler's.

get a positive reading at a glance with *Sightmaster*

Position of the oval image in the port indicates refrigerant supply. If the oval is at a right angle to the flow, the system is fully charged. If it's parallel to the flow, the refrigerant supply is low.



FULL



EMPTY

the right combination
for any situation with
minimum parts to stock

2

bodies
and



3



types of fittings in
1/4", 3/8" and 1/2" sizes
give you

27



different size style
combinations

MUELLER BRASS CO. PORT HURON 14, MICHIGAN

Circle No. 22 on Reader Service Card



225



TWO PROFIT TIPS FOR YOU!



1 Stock Wagner Standard Rotors to make more money ...give faster service!



When repairing a small Wagner motor, you'll save time and money by replacing the worn-out rotor with a Wagner Standard Rotor. This way, you keep those winders free for bigger, more profitable jobs. And your customers are pleased with faster service. Cash in on this short cut to profit by stocking Wagner Standard Rotors.

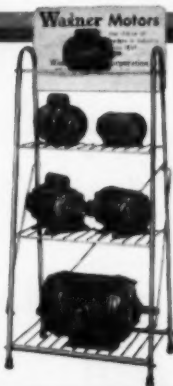
NO PROBLEMS WITH SPECIAL SHAFTS: Just remove the shaft from the Wagner Standard Rotor and replace it with the special shaft.

NO GUESSWORK IN FINDING THE RIGHT ROTOR: Wagner K and M "spec" lists, when used with the "tell-all" label on the rotor package, assure the right choice every time. The "spec" lists are in Catalog MU-40. Write for your personal copy today.



2 Build New Motor Sales with the Wagner Motor Merchandiser!

This 4-tier display stand puts an assortment of motors in full view of your customers...builds profits by helping your customers sell themselves. Sturdy, compact, chrome-plated. Just \$9.95 with your order for any 10 Wagner Motors in one lot. Contact your Wagner branch about this sales-builder today.



WAGNER ELECTRIC CORPORATION
6442 Plymouth Ave., St. Louis 14, Mo.; U. S. A.

MOTORS • BEARINGS • STANDARD ROTORS
BRUSHES • CAPACITORS • COMMUTATORS

OVER 850 AUTHORIZED SERVICE STATIONS OR PARTS DISTRIBUTORS
Circle No. 23 on Reader Service Card



Growing importance of creative and constructive selling in the air conditioning field is highlighted by the theme of the 8-week dealer training course being conducted again this year by the Air Conditioning Div. of the Electrical Association of Philadelphia.

Under the chairmanship of H. B. Shaffer, vice president of S. S. Fretz, Jr., Inc., Philadelphia air conditioning distributor, the current course stresses various phases of sales training and business management. Particularly significant is the fact that in the four years that the course has been conducted this is the first time it has been devoted to merchandising problems. The three previous courses have all been centered around application engineering.

Approximately 200 dealers and dealer salesmen from metropolitan Philadelphia and the surrounding area up to 150 miles distant are participating in the course. Two-hour sessions are being held for eight consecutive Thursday evenings.

Topics slated for study and discussion, and the speakers who will handle them, are: Basic Fundamentals of Selling—Joseph C. Young, supervisor of schools for agents, Insurance Co. of North America; Sales Communications—Paul S. Beaver, head of management training department, Penn State University; Selling as Related to Commercial Air Conditioning—Irv Pittleman, manager of national accounts and project sales, General Electric Co.; Selling as Related to Resi-

dential Air Conditioning—William Nessel, Minneapolis-Honeywell Regulator Co.; Selling as Related to the Air Conditioning Industry—Thom Muir, general manager, COMMERCIAL REFRIGERATION & AIR CONDITIONING magazine; Business Management—Ted Skoglund, director of training, business management team, Carrier Corp.

* * *

Rising to the defense of the U.S. repairman, severely criticized in a recent issue of *Time* magazine, McCabe-Powers Auto Body Co. has mailed 250,000 special 4-page folders to servicemen throughout the country.

"The folders were prepared because we feel that *Time's* article painted a blacker-than-necessary picture of the U.S. repairman," explained John Powers, company president. "To be sure, there are many 'easy-going, unhurried individuals' in the repair business, and petty crooks, too, as *Time* pointed out. But," Powers added, "the vast majority of America's repairmen are intelligent, hard-working, honest persons who deserve a pat on the back for jobs well done."

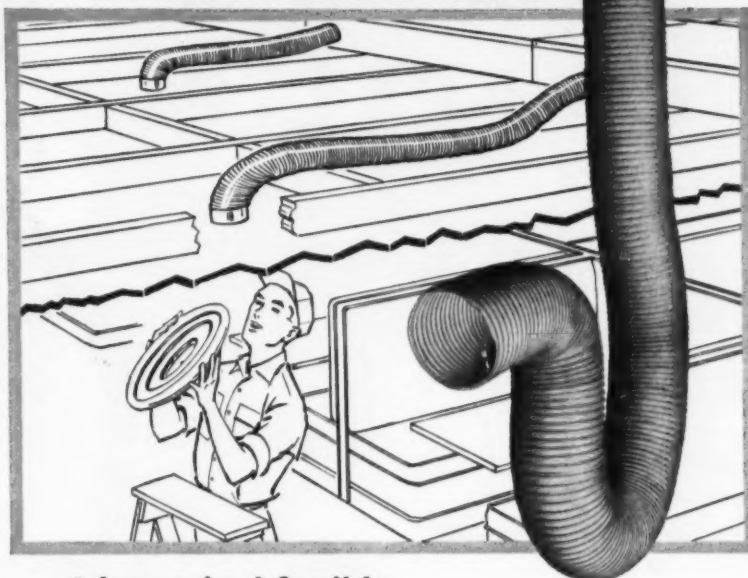
* * *

The air conditioned dealer sells air conditioning—that's the basic premise of American-Standard air conditioning division's new promotional drive appropriately tagged "Operation Beachhead".

"A principal feature of the campaign," explains sales manager H. E. Rossell, Jr., "is to create the largest possible number of dealers and contractors who have their own homes and shops air conditioned." To help achieve this goal a special low dealer price is being offered to those who want to install the company's equipment for their own personal use.

When a dealer's home and office are air conditioned, Rossell reasons, he knows first hand about the benefits of air conditioned living. He has an ideal demonstrator for his prospects. And he has the perfect answer for anyone who asks: "Is your own home air conditioned?"

NEW from FLEXIBLE TUBING



**A low-priced flexible
ducting for air-conditioning systems**

THERMAFLEX-ST®

Thermafex-ST is the answer to your need for a superbly made flexible air duct at a low price. Its construction consists of a continuous, uninterrupted, vinyl-coated fiber glass cover permanently fused to a vinyl-coated, galvanized spring steel wire helix. It was designed exclusively for low- and high-pressure air-conditioning systems and exhaustive field tests have proved it highly effective in all types of applications. Thermafex-ST conveys air at temperatures running from 0°F to 200°F and is available in 16-foot lengths and 2" to 10" inside diameters.

Look at these proved advantages:

1. No exposed metal or metal bands to rust or corrode.
2. Maximum flexibility. Thermafex-ST compensates for misalignment between fixed connections... easily snakes through tortuous passages, around obstacles.
3. Installs without special tools, elbows, fittings or skills.
4. Lighter than any other air-conditioning ducting but extremely tough and durable.
5. Almost twice the crush-resistance of any competitive ducting.
6. Airtightness at all seams, thanks to a superior bonding process.
7. Waterproof, flameproof construction.
8. Smoothly integrated bends that offer less resistance to airflow... result in substantial savings in power requirements.
9. Helps deaden systemic noise.
10. Retractability to 1/3 of extended length for easy handling.
11. A white inside surface for best insulation. Metallic gray outside.

For full information, write to Dept. 62.

Flexible Tubing

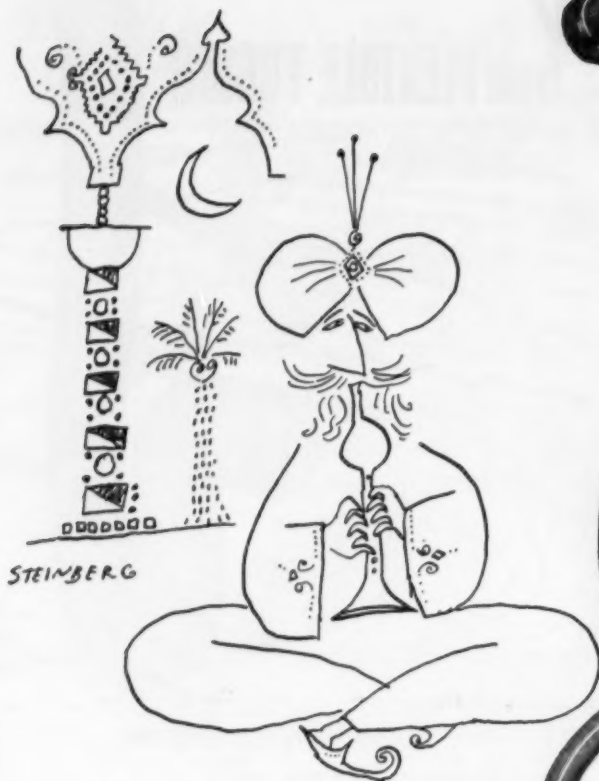
CORPORATION

GUILFORD, CONNECTICUT

ANAHEIM, CALIFORNIA

HILLSDALE, ILLINOIS

Circle No. 24 on Reader Service Card



discipline

We discipline copper.

We put it through the roaring heat of our own smelter . . . the high-amp stillness of electrolytic refining tanks . . . the irresistible pressures of piercing mills and extrusion presses . . . the long reaches of our drawbenches . . . through coiling, annealing, straightening and testing equipment.

We work our will on copper—through every chemical change, every physical gyration known or needed—to deliver it perfect and enduring, yet submissive . . . as Lewin-Mathes seamless tube, pipe and fittings.

Like the ancient coppersmith, our pride of product is that of the *integrated specialist*. And the Lewin-Mathes nation-wide supply facilities serving you, we believe, are second to none.

LEWIN  MATHES
SAINT LOUIS, MISSOURI
COPPER AND BRASS TUBE PIPE AND ROD
 DIVISION OF CERRO DE PASCO CORP.

Circle No. 25 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

send today!

Free from NIBCO



This free catalog for 1958 illustrates and gives complete specifications of NIBCO low pressure, pressure rated and special type bronze valves . . .

including the sensational new Y-Pattern Globe and Check Valves. These are the valves that give you more shut-offs per dollar . . . fully guaranteed to operate perfectly. See your wholesaler or send coupon below.

VALVE CATALOG VC-3



NIBCO INC. — Dept. H- 6102 Elkhart, Indiana
Please rush free copy of your new Valve Catalog No. VC-3.

Name

Firm

Address

City, State

☐ Also send address of nearest source of supply.

Circle No. 26 on Reader Service Card

Milwaukee SAWZALL

all-purpose electric hacksaw



Now
cuts
wood
twice
as
fast

COMPLETE
KIT ONLY
\$89.50
PAYS FOR ITSELF
QUICKLY

with **NEW genuine SAWZALL Deluxe BLADES** that cut twice as fast — last 10 times longer!

• Using SAWZALL and these new, Deluxe Blades, you can breeze easily thru any thickness of wood, like sheathing, 2 x 4's or heavy joists. You can "plunge-cut" in wood or like materials without a starting hole, cut any shape, saw close, right or left.

For fast roughing-in or scroll cutting, you just can't beat this combination.

Simple Rugged Construction: No complicated mechanisms. Full ball and roller bearings.

Gets in the Tight Spots: Blade straddle-mounted, centered for close sawing right or left.

Powerful: Full 1/3 HP Milwaukee-built motor. Cooler running, won't overload, won't over-heat.

Ideal balance: Weighs only 6 3/4 lbs. Easy one-hand operation.

39 Genuine SAWZALL Blades: A size and type for every sawing need. Deluxe blades for fastest cutting, longest life.

Ask your distributor about SAWZALL and the New Deluxe blades... or write for literature.

MILWAUKEE ELECTRIC TOOL CORP.
5310 WEST STATE ST. • MILWAUKEE 8, WIS.

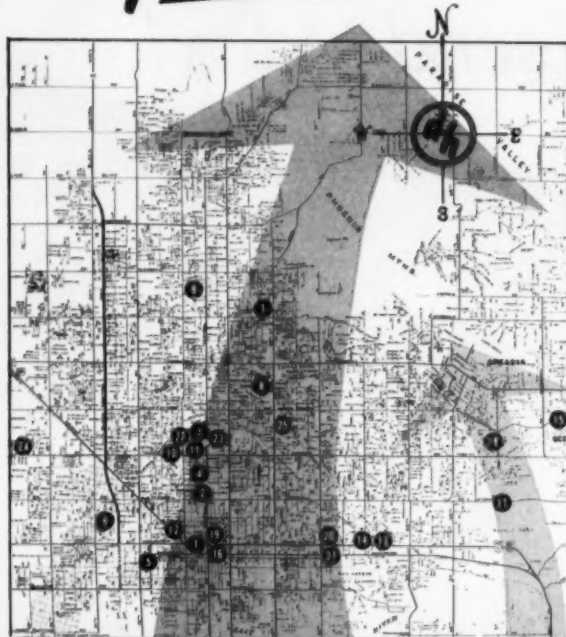


SAWZALL complete with sample blade assortment and sturdy, steel carrying case.

Circle No. 27 on Reader Service Card

courtesy **DRAYER-HANSON** and **E. B. BOMAR**
(SALES AGENT)

AIR-CONDITIONED *Phoenix!*



1. First Presbyterian Church
2. Central Methodist Church
3. 3300 Building
4. Central Medical Bldg.
5. Arizona State Highway Dept.
6. Carl Hayden High School
7. Rose Lane School
8. Madison School No. 8
9. Madison School No. 6
10. St. Joseph Nurses Home
11. First National Bank, Thomas & Central Branch
12. Egyptian Motel
13. Sands Motel
14. Highway House Motel
15. Valley Ho Motel, Scottsdale
16. Down Town Motel
17. Motorola Research Lab.
18. Motorola Western Electronic Center
19. Republic & Gazette Newspaper
20. Arizona State Hospital
21. Flamingo Motel
22. Park Central Shopping Center
23. Central Investment Co.
24. Banks Medical Bldg.
25. KTVK Television Studios

The Burst-At-The-Seams activity that is today's Phoenix, Arizona, can best be measured by these diversified Drayer-Hanson air conditioning installations, recently sold by the E. B. Bomar organization, 914 W. Madison Street, Phoenix...

One of D-H's live-wire, local-area Teams ready to assist in your engineering-application problems!



Request name of Sales Agent nearest you

drayer-hanson
DIVISION OF NATIONAL U.S. RADIATOR CORP.
3301 MEDFORD STREET
LOS ANGELES 63, CALIFORNIA
CABLE: FORTRADE LOS ANGELES

Circle No. 28 on Reader Service Card
FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

Airtemp dealers make more money

Why? Well, the simple fact is that Airtemp Dealers have more to sell. On the one hand, the Airtemp line is *complete*—really complete—with 297 cooling and heating models. A complete line that can satisfy *any* cooling or heating need.

And on the other hand, Chrysler Airtemp dealers make more money because—

- They sell the Chrysler name and Chrysler's famous engineering.
- Airtemp dealers keep their initial sale profits because they have fewer customer complaints and call backs.
- They benefit from pre-tested merchandising helps and incentive programs.
- Dealers receive special training at Chrysler Corporation Service Centers.
- They get factory advertising in their local markets.

So, don't you think it makes good, sound business sense for you to mail in the coupon below—today! It's the first step toward tying-up with the profit franchise—the Airtemp franchise. Do it—today!



CHRYSLER



AIRTEMP DIVISION, CHRYSLER CORP.
DEPT. CR 2-58, DAYTON 1, OHIO

Please send me full information on an Airtemp franchise.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....



Install Insulation with **TUFF-BOND** Super-Strength Adhesives

TUFF-BOND #7

... fire-retardant adhesive for installing insulation

TUFF-BOND M-102-H

... economical duct liner adhesive

TUFF-BOND 21-C

... clear lap sealer and lap adhesive

TUFF-BOND 21-W

... white lap sealer and lap adhesive

TUFF-BOND #500

... exceptionally high-strength chemical-set adhesive with wide thermal range -100° F. to 400° F.

TUFF-BOND #1000

... high heat resistance for bedding and installing high temperature insulation

TUFF-BOND #12

... high pressure duct sealer

TUFF-BOND QUIK-SET

... neoprene-base, fast-setting adhesive. Recommended for installing metal and nylon hangers to smooth surfaces.

TUFF-BOND GENERAL PURPOSE

... all-around adhesive for installing insulation, insulation hangers, etc.

Ask for descriptive literature and prices.

GOODLOE E. MOORE
INCORPORATED
DANVILLE 25, ILLINOIS

Circle No. 30 on Reader Service Card



March 31-April 2, 1958

Gas Appliance Manufacturers Association (Annual Meeting) The Greenbriar
White Sulphur Springs, W. Va.

May 4-7, 1958

Air-Conditioning and Refrigeration Institute (Board Meeting and Annual Meeting)
The Homestead
Hot Springs, Va.

May 5-9, 1958

National Restaurant Association (Convention and Exposition)
Navy Pier
Chicago, Ill.

June 9-13, 1958

Oil-Heat Institute of America (Convention and Exposition)
New York, N. Y.

June 23-25, 1958

American Society of Heating and Air-Conditioning Engineers
American Society of Refrigerating Engineers (Joint Meeting)
Leamington Hotel
Minneapolis, Minn.

October 12-17, 1958

American Gas Association (Annual Convention)
Atlantic City, N. J.

October 22-24, 1958

Air-Conditioning and Refrigeration Wholesalers (Annual Meeting)
Sheraton-Palace Hotel
San Francisco, Calif.

December 1-3, 1958

American Society of Refrigerating Engineers (Semiannual Meeting)
Hotel Roosevelt
New Orleans, La.

December 1-4, 1958

National Warm Air Heating and Air Conditioning Association (Committee Meetings and Annual Convention)
Cleveland, Ohio

Coleman

DISTRIBUTORS

ALABAMA: The Coleman Company, Inc.
115 South 35th, Birmingham
ARKANSAS: Gunn Distr. Co., Inc.
1801 E. 22nd St., Little Rock
CALIFORNIA: The Coleman Co., Inc.
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250 Sylvester St., So. San Francisco
COLORADO: B. K. Sweeney Co.
1601 23 St., Denver
CONNECTICUT: Roskin Distr., Inc.
275 Park Ave., East Hartford
FLORIDA: Eckles Distributors
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J. D. Johnson Co., 16 W. Gregory,
Pensacola
I. W. Phillips & Co., P.O. Box 400, Tampa
GEORGIA: The Coleman Company, Inc.
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ILLINOIS: The Coleman Co., Inc.
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4930 N. River Road, Schiller Park
INDIANA: The Coleman Company, Inc.
1422 South West Street, Indianapolis
IOWA: Midwest-Timmermann Co.
114-116 Western Ave., Davenport
Sidles Co., 8 Seventh St., Des Moines
KANSAS: Coleman Heating & Air Conditioning Co., P. O. Box 2060, Wichita
KENTUCKY: Valley Distr. Co.
912 Baxter, Louisville
LOUISIANA: Walther Bros. Co., Inc.
1722 Paydras at Willow St., New Orleans
MAINE: Nelson & Small, Inc.
68-78 Union, Portland
MARYLAND: The Coleman Company, Inc.
3101 Washington Blvd., Baltimore
MASSACHUSETTS: Bigelow & Dowse Co.
2nd Ave. & A. St., Needham Heights
MICHIGAN: J. E. McMurray Dist. Co., 212
Grandville Ave., S.W., Grand Rapids
Semmler Wholesale Supply Co., 5100
St. Jean, Detroit
MINNESOTA: Heating Supply Company
410 West Lake Street, Minneapolis
MISSOURI: Coleman Htg. & Air Cond. Co.
1219 Union Ave., Kansas City; Hollander
& Co., Inc., 3900 W. Pine Blvd., St. Louis;
General Wesco Distr. Co., P. O. Box 271,
MPO, Springfield
MONTANA: Marshall-Wells Co.
Box 2092, Billings
NEBRASKA: Sidles Co.
7302 Pacific St., Omaha
NEW MEXICO: Albuquerque Lumber Co.
501 N. First St., Albuquerque
NEW YORK: Roskin Bros., Inc.
1827 Broadway, Albany; Lee Distr. Co.,
845 Washington St., Buffalo; Jericho
Distr., Inc., Route 25, Centereach, L.I.;
Sey-Ber Distr. Co., Inc., 104 W. Division
St., Syracuse
NORTH CAROLINA: Southern Appl., Inc.
P. O. Box 2096, Charlotte
NORTH DAKOTA: Minot Coleman Distr.
Box 969, Minot
OHIO: The Coleman Company, Inc., 1825
East Fortieth Street, Cleveland; 392-412
McCoy St., Columbus; Hughes-Peters, Inc.,
1128 Sycamore, Cincinnati; The Joseph B.
Smith Co., 1945 Franklin, Toledo.
OKLAHOMA: Paul W. Davis Co.
825 N. W. 2nd, Oklahoma City
OREGON: The Coleman Company, Inc.
80 S. E. Taylor, Portland
PENNSYLVANIA: The Coleman Co., Inc.
133-43 W. Hunting Park Ave., Philadelphia
3370 Stafford, Pittsburgh
RHODE ISLAND: Lenz-Knight Co., Inc.
200 Conant St., Pawtucket
SOUTH DAKOTA: L. C. Lippert Co.
506 S. Cliff Ave., Sioux Falls
TENNESSEE: Indoor Comfort Distr.
520 Van St., N.W., Knoxville; Forsyth-
Williams, Inc., 35 N. Lauderdale, Memphis
TEXAS: Amarillo Hardware Co.
600 Grant St., Amarillo; The Coleman
Company, Inc., 4909 Reading St., Dallas;
1121 Rothwell, Section 4, Houston; W.
G. Walz Co., 500 San Francisco St., El
Paso; South Texas Appl. Corp., 641 S.
Flores St., San Antonio
UTAH: The Coleman Company, Inc.
520 West Second South, Salt Lake City
VERMONT: Twin State Appliance Distributors,
White River Junction
VIRGINIA: R. F. Trant Distr. Corp.
Box 300, Norfolk
WASHINGTON: The Coleman Company, Inc.
4100 E. Marginal Way, Seattle; Marshall-
Wells Co., 131 E. Main St., Spokane.
WEST VIRGINIA: Van Zandt Supply Co.
1123 Fourth Ave., Huntington
WISCONSIN: The Coleman Company, Inc.
4715 N. 32nd St., Milwaukee

Sheldon Coleman, President, The Coleman Company, Inc. announces a remarkable new kind of warranty...

Coleman®

America's only bonded line of home heating and air conditioning

\$500 bond on furnaces, air conditioning units, heaters and water heaters.

\$1000 bond on the exclusive Blend-Air heating system.

"Now by arrangement with one of America's foremost insurance underwriters*, every Coleman home heating or air conditioning unit is backed by a \$500 bonded warranty. When you install the Coleman Blend-Air heating system, a \$1000 bond guarantees the homeowner's comfort.

"What will these bonds do for you?

"These bonds help you sell successfully against the toughest competition. They give you new talking points. They give you an exclusive selling benefit no one else can match.

"They help you sell quality (not just price alone!) because they are positive assurance that the company and its dealers will stand behind Coleman products. They offer still more openings for you to talk about the advantages Coleman always delivers: more comfort, longer service, and better value.

"Your Coleman distributor will appreciate the opportunity of explaining this entirely new program to you."

Sheldon Coleman
PRESIDENT

*The Travelers Indemnity Company, Hartford, Conn.

PHOTO: KASH OF OTTAWA



Furnaces
Blend-Air System



Air
Conditioning



Trim-Wall
Heaters



Floor
Furnaces



Space
Heaters



Vit-Rock
Water Heaters

The Coleman Company, Inc.

Wichita, Kansas

Toronto, Canada

More homes are heated with Coleman than any other make.



Use these
bonds...
sell more
heating and
air
conditioning

We are willing to bet

that 9 out of 10 cooling water systems
have some scale in them!

Enough scale to cut heat exchange efficiency, and maybe cause plenty of trouble next summer when their maximum capacity is needed.

We are also willing to bet that we can show you how to avoid shutdowns next season. Two of Calgon's BIG 3 water treatment products will *get* your system in first class shape and *keep* you out of trouble.

1. CALGON* SCALE REMOVER

CALGON SCALE REMOVER makes it easy to clean up a system completely. Excellent corrosion inhibitor protects system while in use. Special built-in pH color indicator shows exactly how much of scale remover to use, and tells when system is

clean. CALGON SCALE REMOVER provides the safest way to get the system clean.

2. MICROMET* PLATES

Once the system is clean, *keep* it clean by using MICROMET PLATES. A single charge lasts up to six months, and the inexpensive glass mesh feeding bag eliminates costly feeding equipment. You merely hang the bags in the system. MICROMET PLATES are recommended by many equipment manufacturers. If you have algae or slime growth troubles in your cooling tower, kill them with safe, effective, non-corrosive CALGON ALGAECIDE.

CALGON COMPANY



DIVISION OF HAGAN CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PENNSYLVANIA
DIVISIONS: CALGON COMPANY, HALL LABORATORIES
IN CANADA: HAGAN CORPORATION (CANADA) LIMITED, TORONTO

See your refrigeration wholesaler
for Calgon's Big Three

*T. M. Reg. U. S. Pat. Off.





**JUST DIAL THE RIM...
EASIEST-TO-SET...
EASIEST-TO-READ**

USE PENN'S NEW RIMSET THERMOSTAT TO HELP SELL HEATING-COOLING JOBS

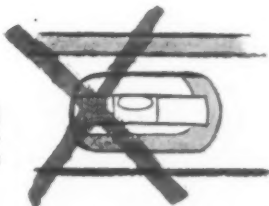
No squinting

Extra large stationary dial face with big numerals make RIMSET today's easiest-to-read thermostat.



No chattering

Unlike other thermostats, RIMSET does not chatter to cause "on-off" operation when vibration occurs.



No leveling

Installation is easier and accurate operation is assured because leveling is not necessary.

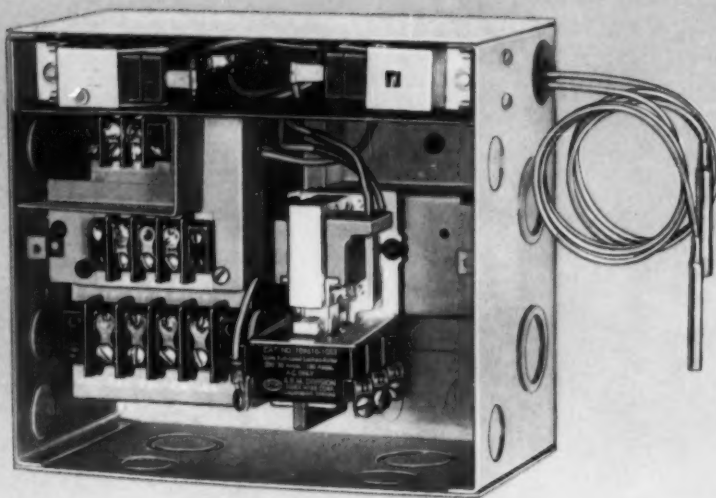
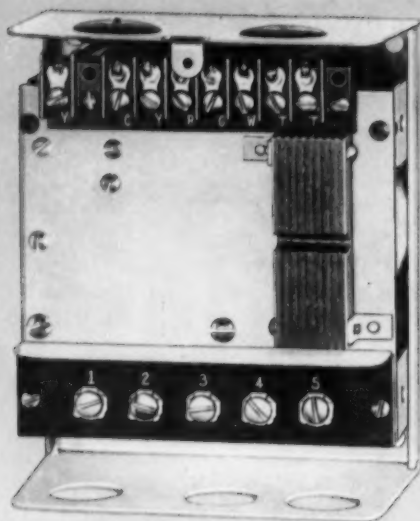
There's nothing else like it... it has accuracy, dependability, extra convenience and blendable beauty

You get extra sales power at no extra cost with Penn's RIMSET thermostat. It has features your customers want and can't get with any other thermostat. It is easier to set... you simply dial the rim... the scale remains stationary and is always "easiest-to-read". It has snap-acting contacts to eliminate "on-off" operation caused by vibration. And, it has modern styling and beauty to blend with any room decor.

With the Penn RIMSET thermostat unit, various interchangeable sub-bases are available for 12 different heating and cooling jobs! On your next installation, use Penn's RIMSET... the thermostat that helps close sales then keeps customers sold.

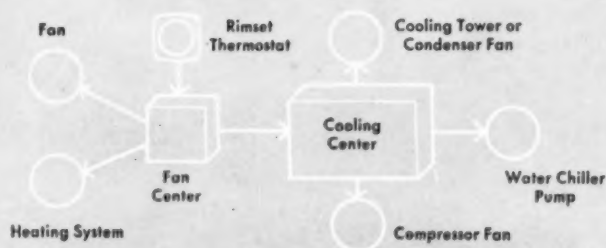
And to complete your control "package" here's the...



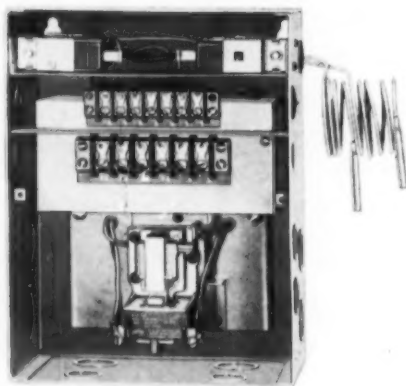


Fan Center and Cooling Center

The Fan Center is 6" high and 4 1/2" wide. It combines a transformer with a fan relay, reset relay and heating relay (one or all). The Cooling Center is 7" high and 8" wide. It combines pressure controls, contactor, auxiliary relay for (a) water chiller pump, (b) tower pump or fan relay or both, (c) condenser fan relay. Diagram illustrates functions.



NEWEST CONTROL CENTERS for Heating-Cooling from Penn!



System Center

Only 11" high and 8" wide, this compact unit combines all the control functions of the Fan Center and Cooling Center. The center panel in this unit is easily removed for ease in wiring.

Compact Penn residential Control Centers, with factory-wired internal circuits, are designed to save installation time

Here are the newest advancements in Control Center engineering design! Penn offers two basic types for all-sized residential units through 40 amps., single phase, 30 amps., three phase. For air conditioning systems with remote condensing units, a "Fan Center" controls the air handling equipment while a "Cooling Center" controls the remote condensing unit or water chiller. For self-contained systems, the "System Center" electrically interlocks in one unit all heating-cooling functions.

These Control Centers are designed to operate with the Penn RIMSET thermostat to give your customers the finest year 'round air conditioning performance. Get the complete story... write to Penn Controls, Inc., Goshen, Indiana.

PENN CONTROLS, INC. Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N. Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

It Works for Others -- Why Not Try It?

DURING the past couple of months some strange and wondrous things have been happening around our house. Let me tell you about them. You may find them of interest, and as you listen to them you may begin to get some ideas you can profitably apply to your own operations.

EPISODE No. 1: One evening I was sitting with my newspaper when my wife said casually, "Oh, by the way, a couple of men will be here tonight to see you about insurance." "What!" I screamed. "I don't want to talk to anybody about insurance. Why are they coming to see me?" "Well," she replied with conviction, "a nice guy stopped by the house a couple of days ago and told me he would like to discuss insurance with you and me." Smelling a rat, I asked if she had called the insurance company to request such a visit. "No," she answered, "he was going to each house on the street with the same story." To make a long story short, the salesmen came, they pitched, they conquered. And it all started with a routine house-to-house call.

EPISODE No. 2: A few weeks back I asked my wife to take our car, a '57 Dodge, into the nearest garage to have the brakes checked. This garage happens to belong to an Edsel agency. A short time after she left it, she decided she needed to go shopping. She called to find out how soon the car would be ready. "Two hours," was the reply. Soon after she hung up, however, a man from the garage appeared at our door. In the driveway was a new Edsel. "Mrs. Muir," he asked invitingly, "why don't you take the Edsel to the store? Just try it out." She did. And so she became one of the 1,500,000 people who the Edsel dealers want to get behind the wheel of this new automobile. Now, I'll admit we didn't buy the Edsel — the Dodge isn't paid for yet — but, by golly, we sure know a lot more about it than we did before.

If you're in the air conditioning business, and sales have been soaring so that you're not concerned about finding new customers, then this suggestion is not for you. But if, like most other dealers, you could do with a few more sales, I suggest that it might be worthwhile for you to pick out a good residential area in your town and call on each house personally. Or take a street in the business section and personally contact each store or office.

Tell them who you are and what you do. Tell them that you would like to figure out their air conditioning needs. If they already have all the equipment they require, then talk up your service facilities. Whatever the outcome, it certainly will do you no harm to let them know you're in business. In fact, I shouldn't be surprised but what you'll find that some of these people really want to buy but that nobody's been around to sell them.

Good luck and good selling.

Thom Muir

EDITOR'S NOTE: *Thom Muir invites you to write to him regarding any sales problem that you might wish him to discuss. Address your letters to him in care of this magazine.*



Irving R. Klein and Associates, architects


"We saved over \$3,000 in construction costs by the use of Styrofoam®"—Grocers Supply Company, Inc.

"We chose Styrofoam to insulate 9,722 square feet of cooler and freezer storage space because we have found an over-all economy in its use, and a specific saving of about ten per cent in both initial cost in installation and in costs of electricity. More than \$3,000, or six per cent of building costs, was saved in the construction of our new plant by the use of Styrofoam." This statement was recently made by George Levit, vice president of Grocers Supply Company, Inc., Houston, Texas.

"Styrofoam," continued Mr. Levit, "is completely effective in maintaining desired temperatures. Our cooler is kept at a constant 35°-37°, and the freezer room stays at minus ten to twelve degrees. We've had no variation in those ideal temperatures since opening our new plant."

For more information about Styrofoam, write to THE DOW CHEMICAL COMPANY, Midland, Mich., Department PL1705D.

CHECK THIS EXCLUSIVE COMBINATION OF PROPERTIES

	Insulations	Low "K" factor	Superior water resistance	High compressive strength	Light weight	Superior resistance to rot and vermin	Easy handling and fabrication	Low-cost installation	Lowest cost per year service
	STYROFOAM	•	•	•	•	•	•	•	•
	A		•	•		•			
	B	•			•			•	
	C	•		•					

YOU CAN DEPEND ON

DOW

Circle No. 35 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

how to do business with uncle sam



THERE'S PLENTY OF BUSINESS available for air conditioning and refrigeration contractors in the form of government contracts. Not only the Army, Navy, and Air Force, but also the General Services Administration, let hundreds of thousands of dollars worth of cooling contracts every year.

The really big contractors know all the ropes. Some even have their own Washington contacts to ferret out the big, fat, juicy jobs and help them get in on the ground floor. But what about the small or medium sized contractor? In many cases, he simply doesn't know where to start.

Actually there's no secret about government spending in this field. The information on contracts to be let is available to anyone. All you have to know is where to go, whom to ask, what to look for.

And none of the government services really care whether a large or small contractor gets the job, as long as that contractor is qualified to meet the terms specified in the contract. So here's a wide open field for a lot of contractors who up to now have simply been missing the boat.

The editors of **COMMERCIAL REFRIGERATION & AIR CONDITIONING** magazine recognized this fact and decided to do something about it. Senator John W. Bricker of Ohio helped us to obtain from each branch of the armed services and from the General Services Administration, which handles all civilian buildings for the government, an outline of the procedure followed in awarding contracts. These agencies also gave us lists of their field offices in various areas of the country to contact for more detailed information.

On these pages you'll find the information received from General Services Administration. Comparable information on dealing with the Army, Navy, and Air Force will be presented in later issues.



Here's help on what to do and whom to see in selling to the General Services Administration

The General Services Administration is responsible for the air conditioning and refrigeration installations in existing Federal buildings that house civilian activities of the Federal government. Drawings and specifications for this work are prepared by, or under the direction of, one of GSA's 10 regional offices. A list of these offices, showing the jurisdiction of each, appears with this article.

Where design-engineering services are required, GSA's regional offices negotiate professional services contracts with engineering firms, generally in the locality of the buildings involved. These contracts are based on an evaluation of questionnaires which the regional offices send to engineering firms in that area.

After drawings and specifications have been prepared, the GSA office solicits competitive lump-sum bids for furnishing or installing all of the material and equipment required. When the project is advertised, a notice is placed in a newspaper in or near the locality where the work is to be performed. Notices also appear in various trade journals and technical publications, as well as in the *Synopsis of U.S. Government Proposed Procurement, Sales and Contract Awards*. This publication is described in detail on the opposite page.

Firms desiring to bid direct to the Government may obtain bidding material from the GSA regional office with jurisdiction over the building in question.

The drawings and specifications that form the basis of contracts set forth in detail the scope and require-

ments of the work. A regional office engineer usually supervises the job. In some cases, however, the professional services contracts with engineering firms provide that they supervise the work.

These professional services contracts provide for payment of a lump-sum fee determined by negotiation. Consideration is given to all factors involved.

GSA's administrator recommends that any contractors interested in this type of business consult the daily *Synopsis* religiously. This publication emphasizes the point that if you're interested in any particular project you may obtain complete bid sets by requesting them from the purchasing office listed. In doing this, it cautions, be sure to fully identify the bid invitation you wish by including in your request the item description, the invitation or reference number, and the opening date. This will save time in filling your request.

To keep costs down, specifications normally are not included with bid invitations unless the specification is a new one. First-time bidders on a particular item should request a copy of the applicable specifications and drawings when they request the bid.

General Services Administration has further simplified the problem for contractors by compiling a list of all air conditioning projects scheduled for post offices, court houses and other Government buildings during fiscal 1958. This list covers all GSA regions except 1, 2, 8, and 10, where no air conditioning projects are scheduled. The complete tabulation follows:

Region 3

Projects pending in Washington, D. C., include additional air conditioning in the Agriculture Bldg., conversion of a windowless area to office space in the Internal Revenue Bldg., and a contract for design studies in the Commerce and Internal Revenue Bldgs.

Installations scheduled elsewhere in the Region include:

Post offices — Annapolis, Cambridge, Upper Marlboro, Pocomoke City, Easton, Salisbury, Chestertown, Bethesda, Crisfield, Hyattsville, and Silver Spring, Md.; Onancock, Hopewell, Hampton, Franklin, Richmond, Ashland, Arlington, Virginia Beach, Cape Charles, West Point, Fredricksburg, Smithfield, and Petersburg, Va.

Post office and court house — Portsmouth and Richmond, Va. Public health service hospital — Norfolk, Va.

Region 4

Post office and court house — Birmingham, Ala.; Jackson, Oxford, and Vicksburg, Miss.; Memphis, Tenn.; Columbia, S. C. Court house and custom house — Mobile, Ala. Federal office building — Nashville, Tenn.

Region 5

Post office and court house — Cairo, East St. Louis, Peoria, Quincy, and Springfield, Ill.; Owensboro, Paducah, and Louisville, Ky.

Post office — Alton, Belleville, Canton, Carbondale, Carlinville, Centralia, Decatur, East Moline, Effingham, Galesburg, and Highland, Ill.; Jeffersonville, New Albany, and Vincennes, Ind.; Bowling Green, Cadiz, Central City, Elizabethtown, Ft. Knox, Franklin, Fulton, Glasgow,

Greenville, Hardinsburg, Henderson, Hickman, Hopkinsville, Madisonville, Marion, Mayfield, Morganfield, Murray, Princeton, and Russellville, Ky.

Region 6

Court house and custom house—St. Louis, Mo. Post office—Kansas City, Mo.; Wichita, Kans.

Region 7

Custom house—Galveston, Tex. Post office and custom house—Port Arthur, Tex. Federal office building—Mus-

kogee, Okla. Court house—Ft. Worth and Austin, Texas.

Post office and court house—Shreveport, Alexandria, and Opelousas, La.; Galveston, Waco, Tyler, Brownsville, San Antonio, and Wichita Falls, Tex.; Little Rock, Ark.; Muskogee and Oklahoma City, Okla.

Region 9

Border station—San Luis, Ariz. Post office—Marysville, Roseville, Turlock, Willows, Woodland, and Yuba City, California.

GENERAL SERVICES ADMINISTRATION

Regional Offices

This tabulation lists the 10 regional offices of the General Services Administration. It provides the address of each office and itemizes the states and territories over which each office has jurisdiction. These are the offices that should be contacted by any contractor seeking full information on GSA installations. In each case, inquiries should be addressed to Regional Commissioner, General Services Administration, at the address shown.

	Office Address	Jurisdiction
Region 1	Boston 9, Massachusetts 620 Post Office and Court House	Maine Vermont New Hampshire Massachusetts Connecticut Rhode Island
Region 2	New York 13, New York 250 Hudson Street	New York Pennsylvania New Jersey Delaware
Region 3	Washington 25, D. C. 7022 Regional Office Bldg. 7th and D Streets, S. W.	District of Columbia Maryland West Virginia Virginia Puerto Rico Virgin Islands
Region 4	Atlanta 5, Georgia Room 833, Peachtree-Seventh Bldg. 50 Seventh St., N. E.	North Carolina South Carolina Tennessee Alabama Mississippi Georgia Florida
Region 5	Chicago, Illinois Room 526, Court House 219 South Clark Street	Kentucky Illinois Wisconsin Michigan Indiana Ohio
Region 6	Kansas City 14, Missouri 2306 East Bannister Road	Missouri Kansas Iowa North Dakota Minnesota South Dakota Nebraska
Region 7	Dallas 2, Texas 1114 Commerce Street	Texas Arkansas Louisiana Oklahoma
Region 8	Denver, Colorado Building 41 Denver Federal Center	Colorado Wyoming Utah New Mexico
Region 9	San Francisco 3, California 49 Fourth Street	California Arizona Nevada Territory of Hawaii
Region 10	Seattle 4, Washington Federal Office Building 909 First Avenue	Washington Oregon Idaho Montana Territory of Alaska



ONE OF THE VERY BEST ways of keeping informed on pending Federal air conditioning or refrigeration jobs is to regularly read the *Synopsis of U.S. Government Proposed Procurement, Sales and Contract Awards*. In plain language, this publication is a listing of jobs of all types on which the Army, Navy, Air Force, and General Services Administration are seeking bids prior to awarding contracts.

This list is compiled daily. Department of Defense procurements listed include only those estimated to exceed \$10,000 in value. General Services Administration listings, however, include all procurements of \$1000 or more.

If you're interested in Government business, you should refer regularly to this publication. That's the advice offered by the administrator of GSA, as well as by the responsible officer of each of the three service branches responding to our inquiry.

The *Synopsis* is issued daily, Monday through Friday (except Federal legal holidays), by the Office of Field Services, U.S. Department of Commerce. Annual subscription rate is \$7, payable in advance. Checks should be made out to Treasurer of the United States and should be sent with order to U.S. Dept. of Commerce, Administrative Service Office, Room 1300, 433 W. Van Buren St., Chicago 7, Ill. Subscriptions also may be entered at any of the Department's field offices.

Continuing a 12-part series:

YOU'RE THE BOSS

JANUARY

How To Analyze
Your Business

THIS
MONTH

MARCH

Planning Ahead
for Profits

APRIL

Organizing f
Effective Con

by GEORGE C. WEBSTER, president, George C. Webster and Associates, Inc., Management Consultants

What Is Your

WHAT'S YOUR PHILOSOPHY of business? That's simply a highbrow way of asking where you are going, in a business sense, and what route you are taking to get there.

Before you can analyze your business properly you must first determine just what your business philosophy is. What kind of a company are you? Or, what kind of a company do you want people to think you are?

Here's an example of what we mean.

Joe owns a diner. It has a counter, wonderful coffee, good food, low prices, quick service. He makes money.

Alphonse owns a gourmet restaurant. It has high prices, superb cuisine, fancy-dress waiters, and a five-piece ensemble playing for dinner. He makes money.

If either Joe or Alphonse tried to duplicate the other's policy, he would lose his trade. What makes them both successful is that each of them, in his own way, plainly identifies to the public what he has to offer, and then sees to it that the customer gets what he wants.

Similar examples could be cited in the air conditioning and commercial refrigeration business. You can be a discounteer or a quality operator. Just make sure you don't try to be both.

Your business philosophy, and the operating policy based upon it, should be designed around your own

capabilities and your ambitions. You should define it, write it down, and make sure that all your employees know it and understand it. It should be the guide to your relationships with both your customers and your suppliers.

Before you can establish your business philosophy, you must understand what kind of a person you really are. Start off by asking yourself a series of pointed questions.

- Are you enthusiastic about your business? Do you have ambition, drive, energy, ingenuity?
- Are you keeping up with the latest products and trends of the industry? Do you know enough about the business you are in?
- Do you like your work, and can you meet the demands of it?
- Do your background and abilities make you best suited for service and installation, or do you have the merchant instinct? Have you the ability to promote and merchandise? Are you a good salesman?
- What do you expect out of your business, and how much effort can you put forth to get what you want? How much income do you need over the next five years to maintain your way of life?
- Do you want to be big or small? If you want to be big, how soon?
- Do you devote too much time to outside interests? Are you a member of any good-will organizations, such as Lions, Chamber of Commerce, etc.?
- How is your health?
- Do you approach every job in an organized manner, so that the result will not be left to chance? Are you the type of person who thinks ahead on business problems?

If you answer these questions honestly, you will have a better understanding of the kind of person you are. Only by understanding yourself—your capabilities, your defects, your ambitions, your limitations—can you develop a sound business policy that reflects you, the person responsible for carrying it out.

INDIVIDUAL HELP: To tie this program directly to your own specific business, Webster will conduct a Management Clinic by mail. Send your management problems to him in care of this magazine. He will answer you directly. There is no charge to CRAC readers for this personalized service.

REPRINTS of this article—and eventually the entire series—will be available. Price of this one: 35¢. Send order and payment to Reprint Dept., COMMERCIAL REFRIGERATION & AIR CONDITIONING, 812 Huron Road, Cleveland 15, Ohio.

MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Counting as a of Control	Control of Expenses	Control of Job Costs	Control of Sales	Control of Advertising	Financing Your Operations	Employee Relations	Simplified Budgeting for 1959

Business Philosophy?

Now that we have come to understand more about you, we will find it easier to define what your business policy should be.

Let's just look at one aspect of the problem.

If you have the merchant instinct, if you are good at promoting and selling, then you should develop your business around a strong merchandising policy. You will be able to compete adequately with other merchants in the field.

If your capabilities are along the technical side, and you have no flair for merchandising, it would be best to develop a strong service policy, perhaps, subcontracting for some of the better merchants in your area.

Either of these policies can be very profitable, if it is suited to the talents of its owner.

Now let's look at what you expect out of your business.

If you want to maintain a fairly high income, if you want to grow over the coming years, you will have to be enthusiastic. You will have to feel in your own mind that you are well qualified for the task you have set yourself. You will have to have the drive, energy, and health to meet the demands that the business inevitably will put upon you.

You will have to work long hours, and not devote too much time to outside interests. You will have to be the kind of person that approaches every job in an organized manner, and continually thinks ahead on business problems.

Now write down exactly what kind of a business you have, and want to have. Study this decision carefully. Discuss it with your wife, your banker, your business associates. Make certain that you are not hypnotizing yourself or daydreaming. Just be sure in your own mind that what you have decided upon is right for you.

A word of caution: Be sure that you are not changing a policy that already has made you successful.

Don't be afraid if your ambitions look lofty, just as long as you are enthusiastic. Remember that the

bumble bee, according to aeronautical engineers, does not have enough wing area to sustain himself in flight. Fortunately, the bumble bee doesn't know this. He just flies.

Whom should you tell about this business policy you have established? The answer to this question is very simple. Tell everyone. Tell everyone you come in contact with.

For your employees, you should write it down. Call them in, explain it to them, give them a copy, make sure they understand it. They will help you in explaining it to your customers—not by going out and reading it to them, but by their actions. This will be as true of the girl who answers the phone, as of the mechanic who goes out on a job.

Tell this same story to your prospects and customers in your advertising, whether it be a simple direct mail program, or a large newspaper campaign.

If you have decided to be an up-and-coming, growing business, you have to keep up with the latest products and trends. You have to continually add new products to your line. The president of a large soap company recently stated that over half of the products the company is selling today were not being sold 10 years ago.

Read at least one good trade publication regularly. The advertisements and the editorial columns in such publications provide one of the best ways of keeping abreast of what's new. Attend at least one industry show a year.

Be sure that you uphold a reputation for fair dealing with your customers, your employees, and your suppliers. Back up your business policy with the kind of service that goes with that policy.

Start correcting your own weaknesses. If you feel unqualified in certain areas of your business, take some night courses, or correspondence courses to improve this situation.

Make certain that you are contributing something to your community. Be sure that your community

Continued on page 74

In coin meter merchandising of commercial refrigeration

Proper Paperwork Provides

by Joseph S. Lipack as told to Jim McCallum

Joe Lipack, president of Warren-Joel Corp., Long Island City, N. Y., probably knows as much about meter plan merchandising as anyone in the business. He pioneered the use of coin meters on commercial refrigeration fixtures 'way back in the early 1930's when he installed 100 meters on cases where accounts were delinquent. They worked out so well that he started selling equipment on this basis. Since then Lipack has built a thriving business on the meter plan, and today meter sales constitute better than 50% of his total volume.

A FEW PIECES OF PAPER can mean the difference between profitable success or costly failure in meter plan selling by a commercial refrigeration distributor or dealer.

It's literally true that paperwork can make or break a meter plan operation. So if you're not willing or able to institute and maintain the necessary controls over your meter plan sales, then you'd better not use meters at all.

But first, before you even consider meter plan merchandising, you'd better be sure that conditions in your area are right for it. To be successful you'll need a lot of meter customers. And these customers must be concentrated in a relatively small area so that you can keep collection costs down within reason.

If you're satisfied that these conditions exist, and if you're willing to supervise the program properly, then go ahead. Meter selling can broaden the base of your business and build your profits attractively by making possible sales penetration into the lower income brackets. Using meters you can sell new equipment to customers who before could afford nothing better than used fixtures.

First you must carefully qualify each customer. We use two simple forms, mimeographed on 8½ x 11" sheets, for this purpose.

The first is a buyer's statement. It lists the customer's name, address, telephone number, and his age. It describes the nature of his business and tells whether it is single ownership, partnership, or corporation. If other than single ownership, names and addresses of all partners or corporate officers are included.

The name of the customer's bank is requested. So are the names of other business firms with which the buyer has had credit dealings.

We ask whether the buyer owns or leases the property. If he leases, we want the landlord's name and address, the length of lease and date it expires, and the yearly rental. If he owns the property, we want to know in whose name the title appears, the valuation, the amount of the mortgage if any, and by whom it is held.

We want to know whether the store is new or old, how long it has been established, its weekly volume of business, and the number of its liquor or beer license, if it has one.

After all this information is filled in, the customer is made to sign the statement underneath a paragraph that says he attests to the truth of this information, which is offered for the purpose of obtaining credit. The salesman countersigns the statement as a witness of this credit statement.

As soon as the salesman turns in this statement we can start running a credit check on the customer. Meanwhile, we send out an investigator to verify the vital portions of this information and to add whatever other facts we need to know in order to intelligently plan the installation.

All investigating work is handled by our own personnel. We divide it between our sales supervisor, our collector, and myself. Whoever does it fills out a sales investigator's report.

At the top of this form, the office fills in the customer's name, address, and phone number, which the

Control

All of our meter installations are grouped geographically into routes efficiently planned for minimum waste of travel time. We prepare a route folder for each route. In this folder we place the collection record sheet for

[illegible]

Phone PU 2391
COMMERCIAL REFRIGERATION COMPLETE STORE LAYOUT SERVICE

SERVICE AND REPAIR ORDER
MODERN MARKET FIXTURES, INC.
1117 E. Third St. — Dayton 2, Ohio

18558

Date: 8/26/57 Time of Call: 1:35 Name of Customer: Paul
Place Name: Buckley's Bar Purchase Order No.: TA 0076
Address: 2340 N. Ridge Drive Phone No.:
City and State: Dayton, Ohio Service No.:
When Service Wanted: Rush Call Taken By: Jim
Special Instructions: How dairy case warm — unit short cycles.

CAUSE OF TROUBLE AND DESCRIPTION OF SERVICE RENDERED
Type: D6 Serial Number: D9347
Gas charge low — found leak at expansion valve — tightened flare nut, and changed system. Could find no other leaks.

QTY.	PART NO.	NAME OF PART	AMOUNT	DATE	BY	SALES TAX	TOTAL	REMARKS
4	16	From 12	6.00	8/26	PS.		12	

Warranty Service
DO NOT PAY

TOTAL PARTS: 6.00
SALES TAX: 7.50
TOTAL LABOR: 13.50
TOTAL MILEAGE: 13.50
TOTAL EXPENSE: 13.50

SERVICED BY: Parker Shelly
CUSTOMER: C. Fuller

PARTS and SERVICE STRICTLY CASH

Show 'Em What They Get "FOR FREE"

DO your customers really appreciate what they are getting in the way of warranty service?

Donald Denny, president of Modern Market Fixtures, Inc., commercial refrigeration distributor in Dayton, Ohio, was pretty well convinced that his customers did not, so he devised a simple but effective means of getting this message across to them. The tool he used was a simple rubber stamp reading, "Warranty Service—DO NOT PAY".

Virtually all of the company's service business is on a C.O.D. basis. Service call slips are made out in triplicate, with the white one becoming the office copy, the yellow one being given to each C.O.D. customer as his receipt or being mailed to the firm's few charge accounts with the invoice, and the pink one staying in the serviceman's book to be later transferred to a permanent rotary file.

On every warranty service order the call slip is completely filled out and charges are totalled just as they would be on a C.O.D. basis. Then the customer's copy is returned to Denny's office where it is stamped with the "DO NOT PAY" message—in red ink so that it can't possibly be missed—before being mailed back to the warranty customer.

In this way, Denny feels, each new equipment customer is made fully aware of the dollar value involved in warranty service calls made "for free" as far as immediate outlay by the customer is concerned. The result is two-fold: a greater realization on the part of the customer that any warranty charges included in the original sale price are fully justified, and a subtle preparation of the customer for any service charges he may have to pay after the warranty expires.

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each customer on that route. As he makes each call, the collector enters the appropriate notations on that customer's collection record.

This sheet, printed on both sides, carries at the top the customer's name and address, equipment purchased, total contract price, down payment, contract balance, amount of monthly and daily payments, and date first payment is due. Space also is provided for the salesman's name and terms of the sale.

Balance of the sheet is divided into columns to provide for entry of collection date, amount of shortage or overage of each collection and to date, amount collected on each call, and contract balance remaining. This line of information, filled out by the collector on each call, is initialed by the customer on the collector's copy and by the collector on the customer's copy. This eliminates any possible arguments about the status of the contract. A column also is provided for a final check by the office.

When the balance shown on any customer's collection record sheet drops down to \$200, the salesman who made the original call is alerted so that he can try for an add-on sale of some other equipment to keep the customer on the books. When the balance finally reaches zero, the collector removes the gears from the meter and puts them in the coin box, so that the equipment will operate without further payments. Then a serviceman is sent out to remove the meter.

At the end of each day the collector makes out a daily report form listing the account number and customer name of each call, and the amount collected. Collections for the day are totaled, and space is provided for any pertinent remarks. If meter sales are being financed by a bank or finance company, these sheets also can be used as a dealer remittance report to that institution.

A master route book is maintained in which every customer's name is entered on a standard ledger sheet. The date and amount of every payment is entered in col-

Continued on page 80

The most powerful sales-clincher ever devised



custom made for the
man who says...

**"I can't afford
new refrigeration"**

It's easy to convince your prospects they *need* new refrigeration... but it's another thing to sell them when they don't have the down payment and can't see how they can accumulate the monthly payments. That's where a METER-MATIC coin meter will step in and *close the sale*.

Your customer puts just a few quarters a day in the coin meter... right from the till the way he's accustomed to pay his other suppliers... and he's got his refrigeration, and you've got your customers. You can sell safely with no money down, except the installation charge.

METER-MATIC

COIN METER
REFRIGERATION SALES PLAN

GET THE COMPLETE STORY

- FULL DETAILS... Specifications; prices, etc.
- METER PLAN BROCHURE... to help you sell
- FREE SELF-MAILERS... for mailing to prospects

MAIL THIS COUPON NOW!

INTERNATIONAL REGISTER COMPANY
2626 W. Washington Blvd., Chicago 12, Illinois

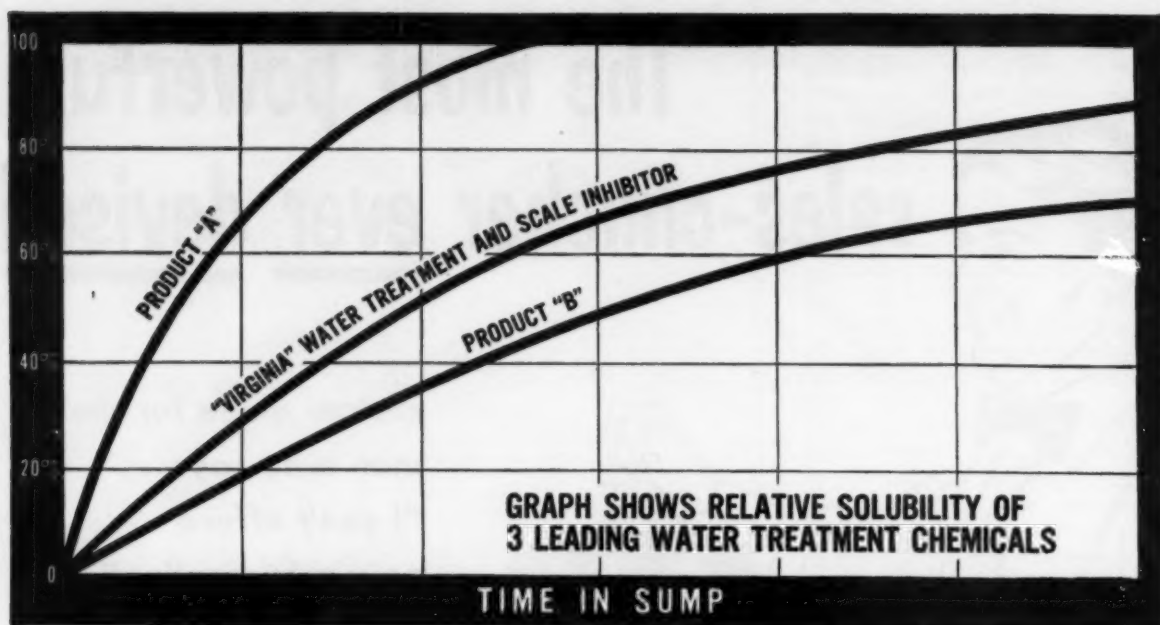
Please send me Meter-Matic Sales Kit No. 28-Mm Be sure to include a free supply of 25 self-mailers for mailing to my prospects.

Company _____

My Name _____

Address _____

City _____ Zone _____ State _____



Note above how Product "A" dissolves too rapidly, with danger of sludging; Product "B" is too insoluble to provide sufficient chemical at any one time to prevent corrosion or scaling. "Virginia's" controlled solubility provides maximum protection to equipment.

YOU MUST SPECIFY "VIRGINIA" FOR MAXIMUM OPERATING LIFE AND EFFICIENCY OF WATER COOLED SYSTEMS



"Virginia" Water Treatment and Scale Inhibitor can be used in all water cooled air-conditioning and refrigeration equipment. Just scatter recommended quantity into sump. No feeder devices, plates or bags required.

"Virginia" Water Treatment and Scale Inhibitor undergoes precision control during its production. This assures a consistent solubility rate—best suited for maintenance of all types of water cooled air-conditioning and refrigeration systems.

Here's why it's so important to specify "Virginia" when buying supplies for servicing equipment: some products are more soluble than "Virginia's," and too much chemical goes into solution too rapidly, which results in periodic sludge buildups. Others are much less soluble, and not enough chemical is in solution at any one time to give maximum protection against corrosion or scaling.

"Virginia" Water Treatment and Scale Inhibitor is "right in the middle." One application will give maximum protection against corrosion or scaling without

sludging, and maintains cooling capacity at peak efficiency. That's why you must specify "Virginia." Order from your favorite wholesaler. For free booklet "Water Problems and How to Correct Them", write Refrigeration Division, VIRGINIA SMELTING Co., 283 Jefferson St., West Norfolk, Va.



ESOTOOL•KINETIC CHEMICAL'S "FREON" REFRIGERANTS•V-METH-1
CAN-O-GAS • PERMAGUM • PRESSTITE TAPE • KWIKWRAP
SUNISO REFRIGERATION OILS • WATER TREATMENT CHEMICALS
Available in Canada and many other countries

Circle No. 37 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

by Hugo C. Smith

Hot-Cold Tank System Improves Tower Operation

INDUSTRIAL APPLICATIONS of cooling equipment are varied as industrial processes themselves.

Many involve high initial temperatures (110 F and up) that must be reduced to final temperatures well below 80 F. Some applications of this type were discussed in the Applications Manual section of the June 1957 issue of *COMMERCIAL REFRIGERATION & AIR CONDITIONING*. This article suggested the use of cooling towers in conjunction with refrigeration equipment.

In many other applications, however, 80 F water is an acceptable cooling medium in itself. These provide a tailor-made opportunity for the refrigeration contractor to pick up an extra profit by selling and installing a cooling tower, even though no

refrigeration equipment may be required.

Applications of this type include chrome plating, anodizing, plastic molding, die casting, rubber processing, induction heating, quenching tanks, and the operation of multiple refrigeration condensing units. In such applications a single cooling tower may be used in the year-round operation of a number of pieces of equipment, each requiring a different quantity of water.

Here a hot and cold tank system is the most practical solution to the problem. The double-tank system prevents excessive cycling of a relatively large cooling tower when only a small quantity of cooling water is required. It also allows the tower to operate at somewhere near its rated gph ca-

capacity, thereby increasing its efficiency.

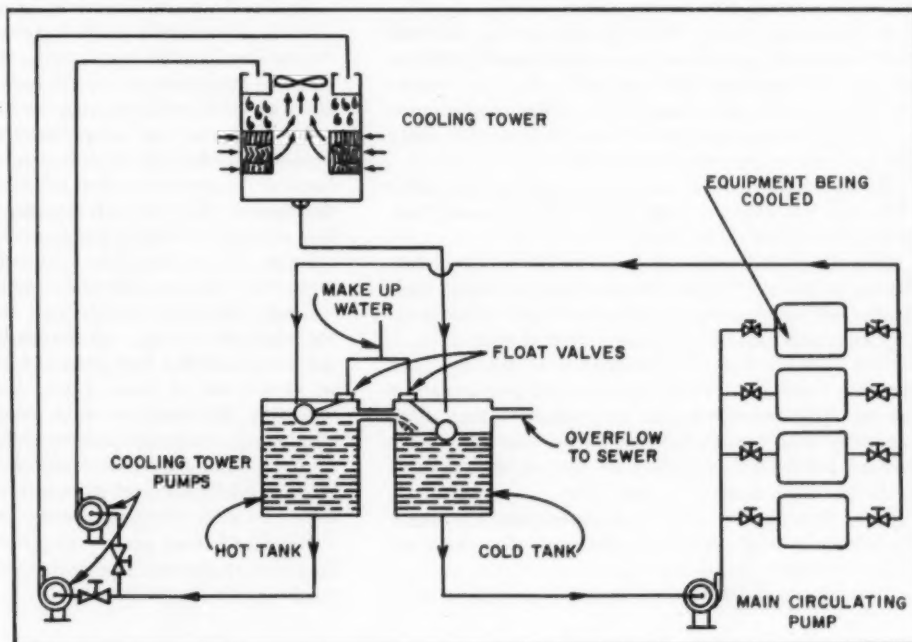
The hot and cold tank set-up will provide an even supply of water at constant pressure regardless of the amount of water demanded by the various pieces of equipment being cooled.

The cycle of operation is relatively simple. The main circulating pump supplies cold water directly to the equipment being cooled. After this water has removed heat from the process it returns to the hot tank. From the hot tank it is pumped to the cooling tower by two or more pumps. From the cooling tower it returns by gravity to the cold tank. Then the cycle starts all over again.

There is an overflow between the hot and cold tanks. During

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HOT AND COLD tank system for industrial cooling towers offers many advantages. The cycle of operation is diagrammed here. (1) Water is pumped from the cold tank to the equipment being cooled. (2) After removing heat from the process it flows to the hot tank. (3) Then it is pumped to the cooling tower and (4) returns by gravity to the cold tank.



SOMETHING'S WRONG

with the figures ▶▶
and it affects . . .

- . . . the salesman who has to sell the manufacturer's equipment
- . . . the dealer who must compete on a basis of capacity and price
- . . . the customer who is relying on these figures for a satisfactory system

MANY MANUFACTURERS, distributors and dealers have commented on the difference in size of the air conditioning equipment quoted by the dealers represented in the article "What Happened When I Tried To Buy Year-Round Air Conditioning." This article was featured in the November issue of COMMERCIAL REFRIGERATION & AIR CONDITIONING.

In preparing the article, a member of our editorial staff requested quotations from seven leading dealers in one metropolitan area on year-round air conditioning for a proposed new home. Four of the seven quotations he received called for a 3-ton cooling unit; the other three quoted a 5-ton model.

Furnace sizes quoted, however, ranged between 140,000 and 150,000 Btu, except for one proposal that specified a 125,000-Btu furnace.

These facts led some old, experienced heads in this business to say, "It just proves that too many residential air conditioning dealers are new in the cooling field, and simply don't know what they're doing." Others claimed that the discrepancy in figures must have been caused by simple carelessness in calculating the load. And then there were some who felt that different living conditions and desires of the customer could account for the difference in sizes figured, even though the house was identical in each case.

Since this closely controlled experiment had been conducted by our own staff, we knew that none of these statements could be true.

First of all, the dealers contacted were people who

had been and are now installing cooling equipment. It was not new to them.

Secondly, the charge of carelessness might hold up if only one dealer had been out of line. But there was virtually a 50-50 split between the 3-ton and 5-ton size. Not all of them could have been that careless.

And as for the difference in desires and living habits of the customer, this couldn't possibly have been an influence because the same man made all of the dealer contacts reported in our November article, and the story given to each one was the same.

Looking over the comparative analysis of the proposals submitted by dealers covered in the survey, it became apparent to us that something was wrong with the figures. We checked into this further and found that most of the dealers had figured the job on load calculation forms supplied to them by the manufacturer whose air conditioning products they handled.

That's when we decided that the best way to find out what was wrong with the load calculations was to get the actual Btu heat gain and heat loss figured. So we sent a set of house plans, along with all of the necessary information as to proposed location and number of occupants to seven different manufacturers of residential air conditioning equipment. We asked them to figure the heat gain and heat loss in Btu's on their own load calculation forms. This was done.

Details of these seven independent calculations are tabulated in the chart presented with this article. The results speak for themselves.

HOW MANUFACTURER'S LOAD ESTIMATES VARY ON "MYSTERY HOUSE"

MANUFACTURER	HEATING DESIGN TEMPERATURE DIFFERENTIAL	HEAT LOSS BTU/HR	SUGGESTED FURNACE SIZE	HEATING BTU DIFFERENCE FROM LOWEST	COOLING DESIGN		HEAT GAIN BTU/HR	SUGGESTED COOLING SIZE	COOLING BTU DIFFERENCE FROM LOWEST
					Outside	Inside			
A	70° TD	80,100	125,000 (ln)	16,100	95° 75°	Not Stated	28,702	3-HP UNIT & MATCHING COIL	5,702
B	70° TD	64,000	85,000 (ln)	Lowest	Not Stated (15° TD)		23,000	2-TON WATER OR 3-TON AIR COOLED UNIT	Lowest
C	70° TD	80,000	125,000 (ln)	16,000	Maintain 75° & Constant humidity		25,000	UNIT & COIL TO PRODUCE 27,800 BTU	2,000
D	75° TD	81,776	125,000 (ln)	17,776	95° DB	78° 67°	40,133	UNIT & COIL TO PRODUCE 4 TONS	17,133
E	70° TD	75,725	100,000 (ln)	11,725	95° 75°	80° DB	28,380	UNIT & COIL TO PRODUCE 35,000 BTU @ 95°	5,380
F	72° TD	86,660	Not Stated	22,660	95° 75°	76° 63°	32,700	NOT STATED	9,700
G	75° TD	66,400	105,000	2,400	95° 75°	80° 67°	35,178	UNIT & COIL TO PRODUCE 2.9 TONS	12,178

Examine this chart closely. You will note that there is a discrepancy not only in the heat gain calculations but also in the heat loss figures. It is difficult to understand why one manufacturer should come up with a 66,400 Btu heat loss with a 75-degree temperature difference, while another figured the same job to show an 86,660 Btu heat loss at a 72-degree t.d., and still another an 80,000 Btu heat loss at a 70-degree t.d.

The heat gain figures also show a wide variance, representing almost 1½ tons of cooling capacity between the lowest and the highest. And, again, look at the difference in the relationship of these heat gain figures to the inside design conditions of each manufacturer's calculations.

Who is right and who is wrong? That is not for us to decide. We only want to point out that the results of such wide discrepancies in basic calculations can be serious. Obviously all of these calculations can't be correct. And if the wrong set of figures is used in designing the air conditioning system for this house then the owner certainly isn't going to be happy with the results.

Surely if the proper load requirements call for 40,000 Btu's of cooling and only 24,000 are supplied, he is not going to be satisfied with his air conditioning. Or, if only 24,000 Btu's are required and 40,000 are supplied, his system still won't produce the desired results.

Furthermore, can you imagine how confused and concerned a prospect would be if he contacted only

three different dealers and received three proposals specifying three different sizes of equipment? In such a situation—and it happens all the time—a dealer is apt to spend more time defending his size calculations than constructively selling his product and its benefits.

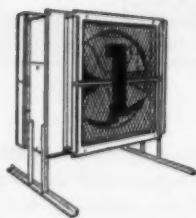
The matter of dollars enters into the picture too. Certainly a 2-ton unit costs less than a 3, and a 3 less than a 5. The variations shown in these manufacturers' load calculations definitely indicates that there would have to be a difference in basic equipment size that would directly affect the selling price of the installation.

Recognizing the problems presented by this lack of uniformity in load calculations, two industry associations—Air-Conditioning & Refrigeration Institute and National Warm Air Heating & Air Conditioning Association—have, through their respective memberships, come up with recommended forms for making load calculations. But apparently here is where the trouble lies. It is obvious that some of the same association members who helped formulate these standards fail to adhere to them in their own operations.

If the dealer-contractor organizations throughout the country are expected to do a conscientious and intelligent job of selling and installing air conditioning products, they should expect and must receive leadership and guidance from the manufacturers they represent. Here is one area where certainly the industry as a whole should closely agree. But—as you can plainly see—something's wrong with the figures!

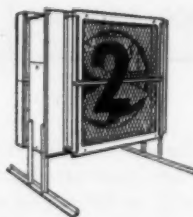
ONLY **KRAMER** UNICON + WINTERSTAT* GUARANTEES ALL **4**

MAXIMUM LIQUID PRESSURE AT EXPANSION VALVE IN WINTERTIME



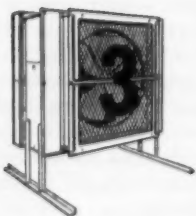
Only the Kramer UNICON plus WINTERSTAT guarantees the full refrigerant pressure at the expansion valve for full cooling capacity — even at below 0°F outdoors — automatically!

MAXIMUM SUMMER CAPACITY WITH PATENTED WINTERSTAT



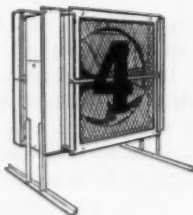
Only Kramer UNICON plus WINTERSTAT guarantees maximum condensing capacity in summer. In hot weather, the patented WINTERSTAT is out of the refrigerant circuit, permitting normal drainage from the condenser without restriction. This assures maximum condensing capacity in summer — automatically!

PROMPT DEFROSTING AT ANY OUTDOOR TEMPERATURE



The use of UNICON plus WINTERSTAT makes Kramer THERMOBANK the only low temperature system that can guarantee operation and complete defrosting at any outdoor temperature—even 0°F or lower — automatically!

IMMEDIATE COMPRESSOR START-UP REGARDLESS OF OUTDOOR WINTER TEMPERATURE



Only Kramer UNICON plus WINTERSTAT (using modification #1) ensures positive and immediate compressor start-up with pressurestat operating the system, regardless of outdoor winter temperatures at the UNICON and regardless of length of compressor lay-off — automatically!

*UNICON is a remote type air-cooled condenser WINTERSTAT is a year 'round automatic head pressure control
WRITE FOR BULLETIN U-210-L

KRAMER TRENTON CO. • Trenton 5, N.J.

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Circle No. 38 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION



PROTOTYPE of the Mark '58 home being introduced this year by Scholz Homes, Inc.

A \$1,000,000 PROMOTION

... is being placed behind this new house. Here's how the air conditioning industry figures to share in this blue-chip bonanza.

A MILLION DOLLARS has been allocated for advertising and promoting the sale of a house—and air conditioning is going to share in the benefits. This house will be known as the Mark '58 and will be seen in well over 200 different cities and towns around the country this year.

Scholz Homes, Inc., Toledo, Ohio, a leading prefabricated house builder, intends to stimulate prospective house buyers to come look at its latest design in homes plus the latest in features by one of the most concentrated, hardest hitting advertising and promotional programs ever devised in the home building field.

Here are just a few of the promotional plans being used by Scholz, in conjunction with 28 home equipment manufacturers, in introducing the Mark '58.

The campaign officially started in January. Builders attending the National Association of Home Builders Exposition in Chicago January 19 to 23 saw a completely equipped Mark '58 on display. A 32-page color insert in January *House & Home* magazine highlighted all the features of the home.

The full blast of national publicity will be launched May 20, when a three-minute color movie built around the Mark '58 will lead into the George Gobel-Eddie Fisher TV show.

House Beautiful magazine has named this model its "House of the Year." It will feature the Mark '58 on its June front cover. A 32-page advertising insert will describe the house and all of the new home equipment featured in it.

A June issue of *Life* will carry a color spread with a listing of every participating builder and where his model home is located. The ad will contain a coupon designed to provide leads for local builders.

Several suppliers whose equipment is included in the Mark '58 will build their national TV advertising

around the house. NBC will work to provide time for spot announcements locally following each telecast. Again the local builder and the location of his model home will be identified.

One participating company plans to include literature on the Mark '58 in monthly mailing of bills to its 55 million customers.

Local department store promotions will tie in equipment being used in the house.

A number of shopping centers and food supermarket chains will promote the house. It will be offered as a grand prize to their customers. These programs also will tie in the local builder.

"Every move will be geared to selling the maximum number of houses for every builder erecting the Mark '58 model," says Donald J. Scholz, president.

The advertising program will reach a total magazine readership of 32 million people, and a television viewing audience of 200 million, according to Scholz.

"Air conditioning and electronic filtering is playing an important part as one of the main features of the Mark '58," Scholz says. "Westinghouse has indicated its interest in this promotion by featuring the home and air conditioning on a forthcoming 'Studio One' TV presentation.

"However, we have left air conditioning as an option on the part of the local builder. I personally feel that the local air conditioning dealer must make his own deal with the builder in his community, because I know the greater satisfaction from the installation can be gained with such an arrangement."

It is generally recognized that one air conditioning home leads to another. So if the majority of these model homes are air conditioned, it will provide a much needed "shot in the arm" to the residential air conditioning business all along the line.

HOW DO YOU RATE WITH

There's a direct relationship between a contractor's ability to satisfy his customers and the volume of sales he produces. If your sales are slipping, you'd better check yourself on these 10 points.

MANY FACTORS complicate an air conditioning contractor's relations with his customer.

The contractor deals in products that his customer doesn't know much about. Each contract represents an investment in expensive equipment which may be hidden in a basement, closet, attic, or wall space to make it as inconspicuous as possible.

In addition to selling the equipment, the contractor must furnish skilled installation labor involving many trades. Often this is handled through subcontracts. He may also have to furnish engineering layouts and specifications. He must qualify for any required licenses and permits. His work must meet code standards. He may have to furnish insurance or bond to assure compliance with the contract.

All this costs the contractor real money and causes him a lot of worry. The buyer pays for it along with material and labor, for what he really is buying is a service. He pays a certain price for his job because he wants to be sure he has all of the specified elements of air conditioning—heating, cooling, ventilation, air cleaning, and/or humidity control—when and as needed. In fact, his business may rely upon the dependability of this service.

There are 10 basic considerations that influence a purchaser in selecting a contractor. These are indicated by the questions in the accompanying self-rating guide. The following customer's-eye view of these factors should help any contractor determine his own customer rating.

1. Financial Stability: This does not mean that a contractor is rated solely by his financial statement or credit agency rating. A firm with modest assets might be in a better position to handle certain jobs than some larger companies. It does mean that a successful contractor should be able to finance his jobs to completion or within the terms of a contract.

The buyer is apt to seek assurance that his contractor will be there when needed after completing the contract. He will demand protection against subcontractors' claims. He also will demand assurance of the contractor's ability to back up his guarantees.

2. Willingness To Assume Responsibility For Entire System: Most jobs involve subcontractors. Boilers, refrigeration, piping, controls, ductwork and electric wiring often are installed by specialists. This generally results in a better job. The user, however, deals in good faith with his prime contractor. When he needs help he does not expect to be shifted from one subcontractor to another.

The subcontractor is here to stay. But the air conditioning user wants a contractor who will be responsible for the work he sublets. The contractor can assume this responsibility by subletting work only to reliable firms. The user's interests are sacrificed by the contractor who shops for subcontract bids strictly on a price basis.

3. Adequate Service Facilities: A well manned and equipped service department is, without doubt, a potent sales tool. The air conditioning dealer sells a service. Merchandise is very important but is valuable only because of the service it performs. Many buildings now are being constructed so that air conditioning is essential to their use. Owners are not going to take chances on prolonged shutdowns.

4. Engineering Facilities: Bids on most large jobs and some smaller ones are made on specifications and layouts prepared by consultants retained by the purchasers. The technical know-how required by the contractor for these jobs consists mainly in estimating and supervision. The consultant designs the system.

Many purchasers of small, medium and some large systems, however, prefer to deal directly with a reputable contractor. It is on these jobs that the contractor's engineering skill is of paramount importance. The ideal setup is for the contractor himself to be qualified as an engineer, or else to have one in his employ.

Contractors who do not employ engineering help can get it from equipment suppliers or subcontractors. The talent available from these sources is often top grade. However, the experience and qualifications of

by Edward Dowis

YOUR CUSTOMERS?

any person assigned to design work always should be carefully investigated.

5. Willingness To Bid On Alternate Types Of Systems: A buyer may have definite ideas about the type of system best suited to his building. Whether he's right or wrong, the contractor will gain his respect by working along with these ideas. After the costs of various systems are compared, along with their advantages and disadvantages, the alert contractor usually will be successful in selling a proper system.

6. Cooperation With Owners In Locating Equipment: Building owners are in a better position to evaluate building space than are contractors. Too many jobs are lost through failure to exercise ingenuity in placing equipment.

For instance, Contractor A brings in a layout that conforms to good engineering practice. He is insistent that his is the only way to do a good job at reasonable cost.

Contractor B, on the contrary, makes preliminary inquiries as to which areas are available for equipment. He designs a system conforming as nearly as possible to the owner's wishes. He may make some suggestions, but always is careful to point out their merits and ask the owner's opinion.

Guess who gets the job.

7. Guaranteed Performance: A purchaser has every right to a contract stipulating temperature and humidity to be maintained under specific inside and outside conditions. Every experienced contractor knows he's asking for trouble if he fails to spell out in detail the conditions under which performance is certified.

Importance of carefully estimating heat gains and losses and selecting equipment capable of compensating for them is obvious. Purchasers will continue to demand performance guarantees. You will avoid misunderstandings when you tell buyers all conditions under which the guarantee is valid. Probably the most common cause of apparent performance failure is an increase in occupancy load over that figured in the job estimate.

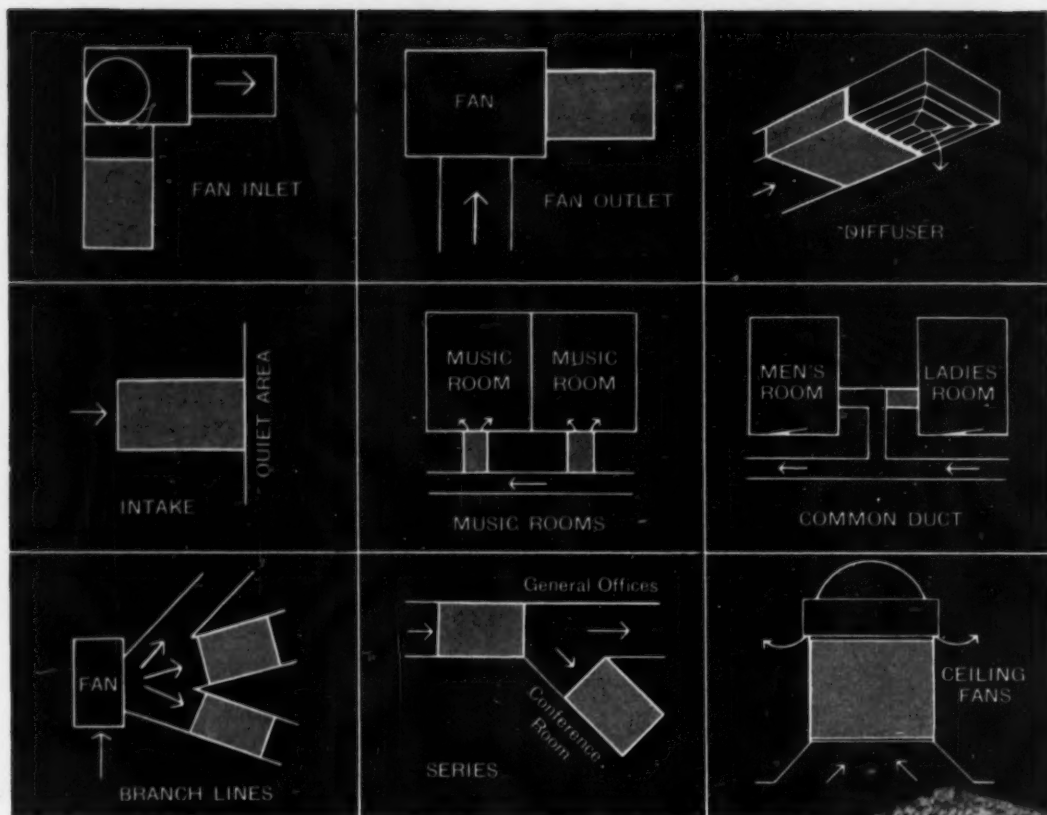
8. Quality And Selection Of Equipment: No contractor or dealer can rate higher than the products he sells. This goes for auxiliary and in-

Continued on page 55

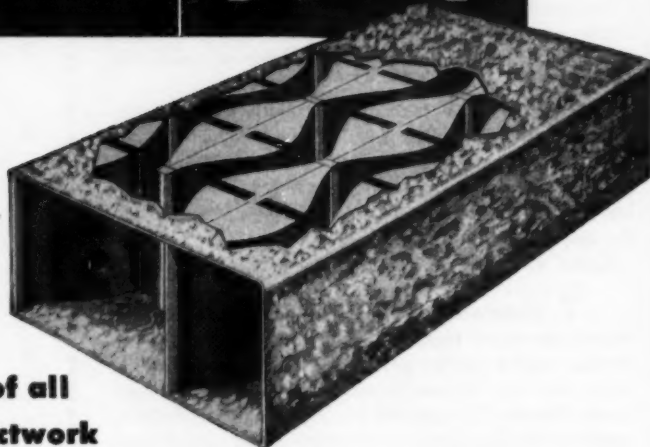
THIS CHECK LIST WILL TELL YOU

If you can answer all of these questions with a resounding "Yes", you should have little trouble getting good orders at the right price. If you find two or more "No's" on your score sheet, you'd better start beefing up the soft spots in your operation. If your "No's" number four or more, maybe you'd better consider some other way of making a living!

- | | Yes | No |
|---|--------------------------|--------------------------|
| 1 / Is my credit and financial condition such that I can finance my work to completion? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 / Do I assume responsibility to my customers for a complete installation, including work done by subcontractors? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 / Do my service facilities assure dependable service and long life of equipment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 / Can I provide engineering service that will assure design and layout consistent with the best practice? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 / Do I objectively appraise the adaptability of different systems to a particular job? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 / Do I cooperate with owners in locating equipment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 / Do my facilities and know-how make it possible for me to guarantee performance at stated conditions? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 / Do I always use material and equipment that conform to standard practice, considering performance requirements of the system? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 / Are my cost estimates accurate and reasonable? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 / Am I careful to continue my contacts with all customers after jobs have been completed? | <input type="checkbox"/> | <input type="checkbox"/> |



Every Building Needs *Aircoostat* Sound Traps



AIRCOUSTAT silences all noise of all frequencies traveling through ductwork

Eliminate disturbance, distraction and irritation caused by noises escaping from one area to another through ductwork.

Install AIRCOUSTAT Sound Traps. AIRCOUSTAT eliminates guesswork, wasted space and unnecessary expense of duct lining. You can guarantee your client trouble-free performance. You can estimate with complete confidence the perform-

ance of particular applications. If AIRCOUSTAT fits geometrically, it fits acoustically.

AIRCOUSTAT saves you space. Its greater effectiveness permits smaller-sized ducting. It eliminates bulky mufflers.

For more details, write to KOPPERS COMPANY, INC., Industrial Sound Control Dept., 7711 Scott Street, Baltimore 3, Md.



INDUSTRIAL SOUND CONTROL

Engineered Products Sold with Service

stallation equipment as well as major items.

Proper selection and application of system components distinguish the reputable from the irresponsible contractor. This includes such items as:

- (1) Coil of proper dimensions and number of rows.
- (2) Piping of proper size and wall thickness.
- (3) Duct metal of proper thickness and properly joined.
- (4) Pipe and equipment supports and braces.
- (5) Sound absorbing equipment.
- (6) Duct and pipe insulation.
- (7) Flexible connectors for pipe and ducts.
- (8) Grilles, diffusers and air distribution equipment.

Some dealers handle only one major equipment line. They usually fill prime contracts for complete systems using that line. They handle complete installation of refrigeration equipment, serving as subcontractors for heating and ventilating, sheet metal, plumbing or other types of companies. Purchasers generally favor this arrangement since it assures them of specialized installation service.

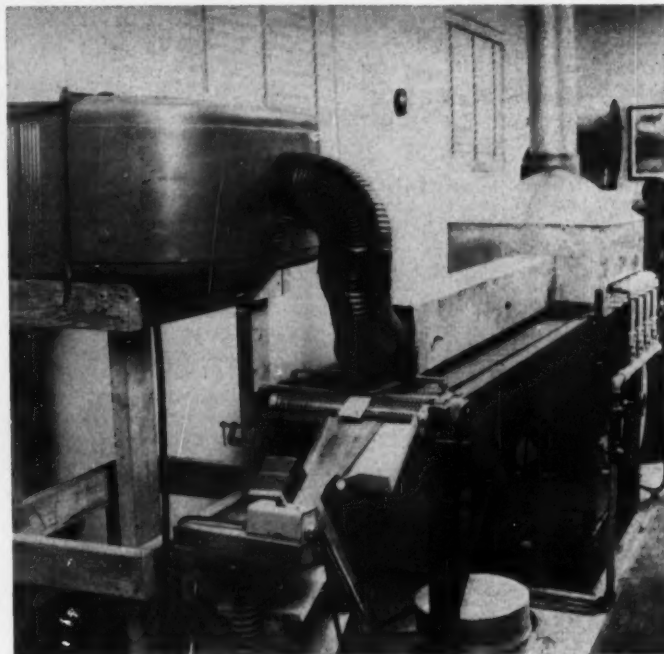
9. Cost Estimates:

Don't ignore the importance of competitive bidding. However, the low bidder is not always the successful one. Most buyers are wise to the dangers of dealing with a contractor who sells price, with a bid so low that he can not supply the best in skill and merchandise.

Economical management coupled with careful estimating and good salesmanship will permit a competitive bid that includes all costs of doing business.

10. Customer Relations:

Keep in touch with your customers. Collectively they are your most important asset. They are human. They like to know that you appreciate their business. Live with each new job until you are sure the purchaser is satisfied—then send your prospects to see his installation.



COOLING FRESHLY PRINTED CARDS as they come from a drying oven has helped this specialty print shop cure its hot weather headaches.

Cooling Speeds Card Drying

WHEN TEMPERATURE AND HUMIDITY SOAR in Dallas, Tex., officials of Crescent Card Co. smile happily and thank air conditioning for the fact that they no longer have to suffer through long days of slow production, with frequent press shut-downs and cards spread all over the shop like confetti.

A clever quick-cooling system devised by C. C. Kilpatrick, owner of this specialty printing firm, has ended manufacturing problems and profit loss due to hot weather, and has made possible year-round operation "in the black".

Previously, during hot and humid weather, Kilpatrick had found it necessary to stop the embossing press while cards were spread by hand over blotters to dry ink and harden resin dust. This meant slower output, extra labor costs, and loss of stock from hand prints and ink smears. In some cases, customers returned cards that had stuck together and become smudged.

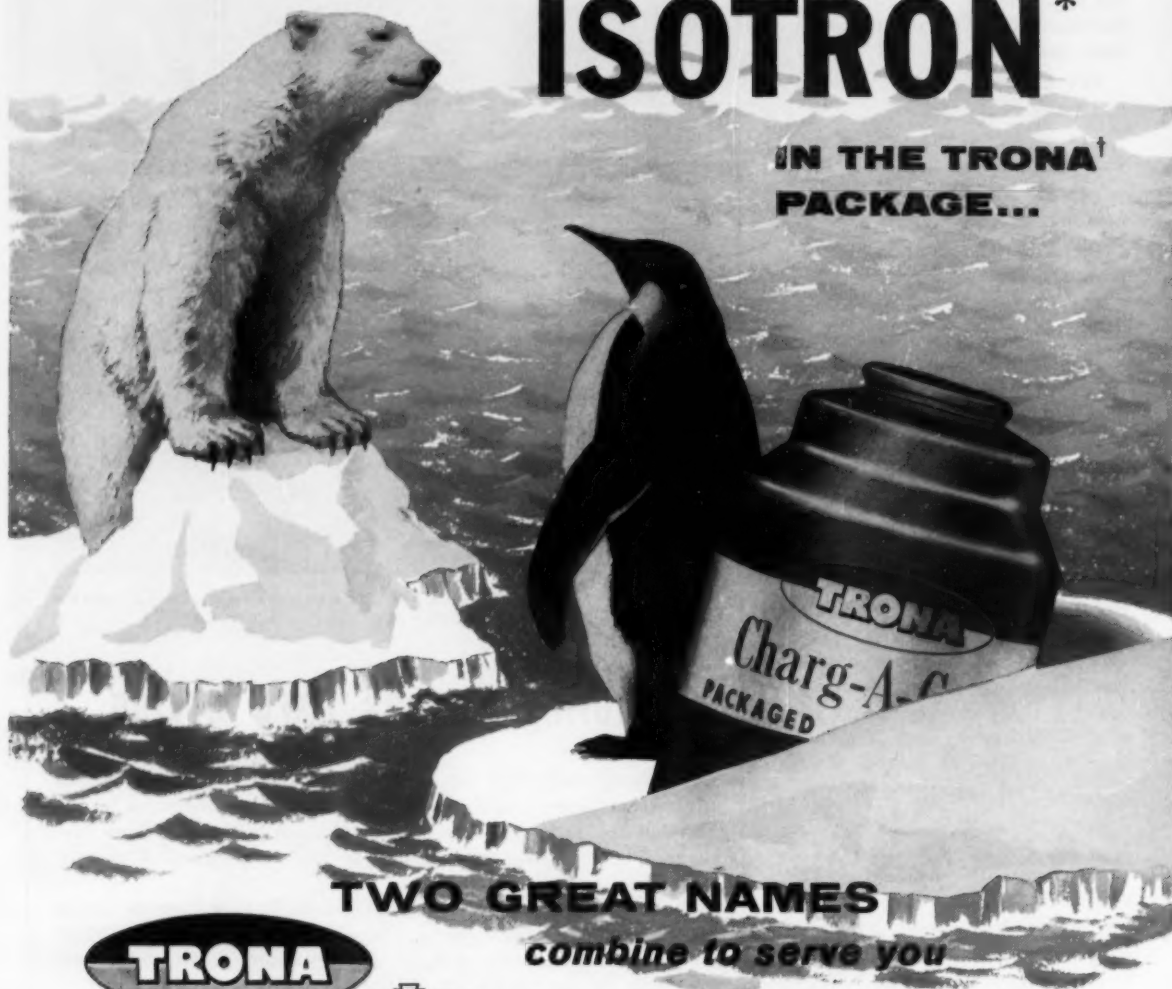
In analyzing his climate control problem, Kilpatrick conceived the possibility of drying the specialty cards with a small air conditioner. He mounted a standard Carrier room unit on a platform at the end of the conveyor belt carrying the printed cards out of a 130 F drying oven. Conditioned air is directed from the front of this unit through a section of flexible duct and into a sheet metal hood extending the full length of the conveyor.

The dehumidified air directed over the cards as they pass along the belt is maintained at 55 F. This aids in setting both the ink and the resin dusted over the printed cards. It makes possible a perfect embossing job under any weather conditions. Result: the shop's warm weather production has been stepped up some 40%.

What's New in Refrigerants?

ISOTRON^{*}

**IN THE TRONA[†]
PACKAGE...**



TWO GREAT NAMES

combine to serve you

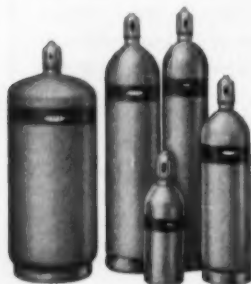


**Pennsalt
Chemicals**

^{*}"ISOTRON" is Pennsalt's registered trademark
for its fluorinated hydrocarbons.

[†]Trademark AP&CC

Effective immediately two leading factors in the chemical world join forces to serve the refrigerant industry. American Potash & Chemical Corporation, a leading national refrigerant distributor for 20 years, and Pennsalt Chemicals Corporation unite to bring you ISOTRON refrigerants, newest of the fluorinated hydrocarbons in CHARG-A-CAN[†] disposable containers and bulk cylinders. First with the full line, first in constructive service for wholesalers, contractors and service men, TRONA continues its refrigerant marketing leadership.



FIRST with the **FULL LINE** in disposable CHARG-A-CAN containers and bulk cylinders... ISOTRON-11, ISOTRON-12, ISOTRON-22, ISOTRON-113, ISOTRON-114, METHYL CHLORIDE and SULFUR DIOXIDE.



For further information write

American Potash & Chemical Corporation

3030 West Sixth Street, Los Angeles 54, Calif. | 99 Park Avenue, New York 16, New York

Export Office: 99 Park Avenue, New York 16, New York

Circle No. 40 on Reader Service Card

FEBRUARY, 1958 • COMMERCIAL REFRIGERATION

HOT-COLD TANKS...

Continued from page 47

periods of reduced demand or cold weather operation the cooling tower pumps are cycled by means of a 2-stage thermostat bulbed in the cold tank.

If more than two pumps are needed to meet varying loads, individual thermostats can be easily installed. These also should be bulbed in the cold tank and should be set to cut in additional pumps as the demand arises. This provides a simple means of temperature control, making it possible for one tower to handle a wide range of equipment loads and operating conditions.

Each cooling tower pump must have its own riser to the inlet manifold of the cooling tower. Under light load conditions, when only one pump is being used, the water will tend to rise in the hot tank until it overflows into the cold tank. This tempers the cold water.

Size Tanks Carefully

The main circulating pump should be sized somewhat larger than required to handle the maximum flow demand of the equipment it serves. With the cold tank installed above the equipment to be cooled and the hot tank below, it would be possible to deliver water to the equipment by gravity. The main circulating pump then could be eliminated. The temperature in the cold tank could be regulated, if necessary, by a temperature actuated 3-way valve.

For applications of this type, cooling tower pumps should be selected in the usual manner. They should have sufficient capacity to handle the requirements of the installation at any necessary head.

Hot and cold tanks for such installations are normally of equal size. They should be large enough to flood the cooling tower and all equipment being cooled and return water to the cold tank before the hot tank runs dry. Each tank should be of sufficient size to hold all of the water handled by the pumps during 3 to 5 minutes of operation at full capacity.

New SERV-A-TRAY CASE by Schmidt

*displays, sells,
serves food
faster... with
sliding glass
doors!*



Serv-a-Tray is installed in the dining area. No searching... the waiter sees it... serves directly from the case.

Tray-Slides... a Schmidt exclusive to increase capacity! Moves salads, desserts, etc. by the *trayful* in any food serving operation.

With Sliding Glass Doors, food is on display, always fresh and appealing... a profit-proved food service merchandiser!

Saves Man-Hours... assures finer, faster customer service.

Cuts Operating Costs... no unnecessary opening of doors to check for certain items, since contents can be seen at a glance.

Relieves Congestion... no door-swing to block the aisle.

Here's a case with *built-in* sales appeal that you can sell and install easily. Write for details on sizes and models now!



THE C. SCHMIDT CO.

1712 John St., Cincinnati 14, Ohio

COMMERCIAL REFRIGERATOR SALES NEWS

JORDON NAME, WARRANTY STATUS CLARIFIED

Jordon Commercial Refrigerator Co. has issued a statement aimed at clarifying the relationship between this firm and Jordon Refrigerator Co. Both firms are located in Philadelphia, Pa.

Jordon Commercial Refrigerator Co., this statement explains, has acquired all manufacturing rights, trade marks, parts supplies, and distribution rights to the Jordon name. Manufacturing and national sales offices have been maintained at 2200 Kennedy St. There is no connection, the announcement states, between this firm and Jordon Refrigerator Co., 7900 Tabor Road. This latter firm recently was reported as being liquidated.

Jordon Commercial Refrigerator Co., the statement continues, did not assume any of the liabilities or service or warranty responsibilities of the other Jordan firm. All Jordon commercial refrigeration equipment sold prior to April 1, 1956, and all domestic

type food freezers sold prior to Nov. 1, 1956, were manufactured by Jordon Refrigerator Co. All service or warranty matters on such equipment should be referred to the Tabor Road address.

Jordon Commercial Refrigerator Co. has attained full production in its Kennedy Road plant, according to Alfred P. Levin, sales manager, and has expanded the market for its field organization by introducing new items. The firm maintains field warehouses in several key markets throughout the country, including Boston, Chicago, San Francisco, Los Angeles, Pittsburgh, Dallas, Miami, and New York.

HAVERLY MOVES PLANT TO ROYERSFORD, PA.

Haverly Equipment Div., John Wood Co., has announced that its manufacturing operation will be moved to Royersford, Pa., on Jan. 1, 1958. The move will more than triple Haverly's production of refrigerated bulk milk coolers.

A branch sales office as well as warehouse and service facilities will be maintained in Syracuse to serve New York State and New England customers.

Carl Fehrman has been named district sales manager to head Haverly's Syracuse sales office. Fehrman has been a district representative for the company in New York for many years.

RECORD NAMES KOLDAIRE

Koldaire Supply Co. of Ft. Worth, Tex., has been named distributor for commercial refrigeration products of Recold Corp.

Koldaire is headed by J. T. Threadgill, president. Vice president is K. E. Vetter and secretary-treasurer is Mrs. Margaret Eppes.

WHIRLPOOL CORP. BUYS ALL SERVEL FACILITIES

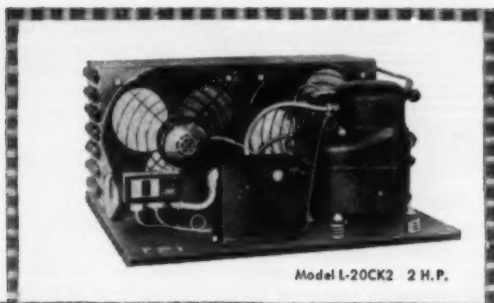
Whirlpool Corp. has purchased from Servel, Inc., all facilities, including patents, property and equipment, relating to the Servel gas refrigerator and ice maker.

The negotiated purchase price was approximately \$6,500,000, according to Elisha Gray II, Whirlpool president. Gray said Servel also paid \$1,600,000 to Whirlpool for the latter to assume Servel's contractual obligations to fulfill unexpired warranties.

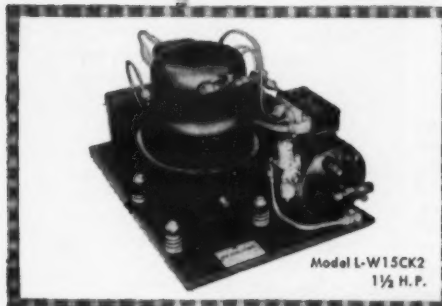


NEW OFFICERS and directors of National Commercial Refrigerator Sales Association pose at the speakers' table immediately following their election at the close of the group's 11th annual convention in Chicago. Seated (left to right) are: Donald D. Denny, Dayton, Ohio, treasurer; Dudley M. Cawthon, Miami, Fla., 3rd vice president; Ray H. Winther, South San Francisco, Calif., 2nd vice president; Harry A. Hattenbach, Cleveland, Ohio, president; Marie H. Lawton, executive secretary; Milton I. Schwartz, New York City, 1st vice president. First three men from the left,

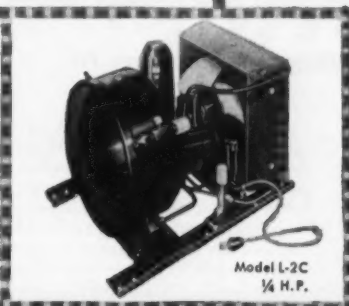
standing, are newly elected directors of NCRSA. They are: Robert Trudeau, Montreal, Canada; Phil Schnell, Portland, Ore.; and Max B. Udell, Grand Rapids, Mich. Other directors (continuing from left) are: H. E. Humphreys, Concord, N. H.; George Schoenbacher, Chicago; Fred E. Jacob, Los Angeles, Calif.; George Lucas, East Hartford, Conn.; and Phil Erb, Springfield, Mo. Not present at the time this photograph was taken were association directors E. B. Ward, South Bend, Ind., and J. D. Gardner, Nashville, Tenn.



Model L-20CK2 2 H.P.



Model L-W15CK2
1 1/2 H.P.



Model L-2C
1/4 H.P.

for the **size** you need...
the **capacity** you want...
the **quality** you expect...

.....*Specify* **Lehigh!**

BLU-COLD HERMETIC CONDENSING UNITS

Any size, from 1/5 to 2 H.P.

for any application, commercial or industrial.

Send for new 4-page catalog sheet.



Lehigh condensing units



LEHIGH MANUFACTURING COMPANY, Division of Lehigh, Inc., Easton, Pa.
Manufacturers of Open Type and Hermetic Condensing Units and Compressors.

EXPORT DEPT.: 13 East 40th Street, New York 16, N. Y.

& AIR CONDITIONING • FEBRUARY, 1958

Circle No. 42 on Reader Service Card

NEW PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your request will be forwarded directly to the companies concerned.

(For News of Useful Literature turn to page 76)

Air Conditioner

Product: Built-in line ("Through-the-Wall") of air conditioners.

Manufacturer: Mercury Div. of Lord & Palmer, Inc., Belding, Mich.

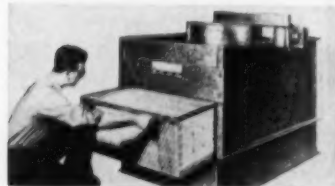
Features: Measures only 16 x 16 x 30". Five push-button controls allow choice of 18 automatic settings. All controls are at front. Air intake at back only so it fits flush inside or outside. Three models: MW-101C, 115 volt, 1 hp; MW-102C, 230 volt, 1 hp; and MW-152C, 230 volt, 1½ hp. Installs easily in windows, through the wall, and in the transoms.

Circle No. 154 on Reader Service Card

Cooling Tower

Product: Low silhouette cooling tower.

Manufacturer: Binks Mfg. Co., Chicago, Ill.



Features: 44 to 84" in height. No surface protection needed. 15 to 200 gpm capacity. Multi-finned internal decking constructed of non-corrosive plastics easily removed. No nozzles required to effect initial water break-up. Static balanced fan above and between decking units draws air up through decking. Weatherproof motor mounted outside air stream.

Circle No. 155 on Reader Service Card

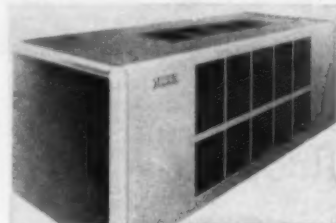
Induction Room Units

Product: Addition to "Uni-Trane" line of four small-size, high-pressure, induction room air conditioners. Used for perimeter air conditioning in high velocity induction central systems.

Manufacturer: Trane Co., La-Crosse, Wis.

Features: Included are vertical

and horizontal models. Capacities from 2000 to 12,000 Btuh. Horizontal units have bottom drain pans that cover entire area under water coil and control end-pocket. Also track-type suspension hangers and ½" throwaway or permanent filters. Vertical models have four-way direction-



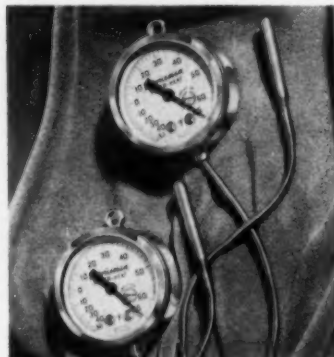
al outlet grille consisting of series of louvered steel squares that may be rotated to provide desired air discharge pattern. Quiet-operating nozzles are arranged for multi-stage operation in molded plastic plate. Each plate clamped to unit casing and bedded in mastic sealer.

Circle No. 156 on Reader Service Card

Super-Heat Thermometer

Product: New super-heat thermometer kit.

Manufacturer: Marsh Instrument Co., Skokie, Ill.



Features: Kit has two identical 2" dial thermometers in polished brass cases. Dials are graduated from -40 F to +65 F. Each thermometer has 12" double armor capillary tubing and ¼" diameter

bulb. Non-absorbent, oil resistant foam rubber wrappers attach bulbs and insulate against ambient temperatures. Complete kit including instructions packed in clear plastic box.

Circle No. 157 on Reader Service Card

Corrosion Protection

Product: Markal "D-A" coatings for permanent protection of metals against corrosive action.

Manufacturer: Markal Co., Chicago, Ill.

Features: Applicable for cooling towers, condensate pans, or any other places where it is desirable to prevent corrosion. Prevents electrolytic action between aluminum and any dissimilar metals. Protects against salt spray or brine solutions. Can be applied by spray, brush, or dip. No bonderizing or phosphatizing required. Metals already corroded don't need to be cleaned before applying protective coating. Just remove loose scale and dry. Covers 450 sq. ft. per gallon. Air dries in 48 to 72 hours. Available in ivory, gray, black, or aluminum, with special colors upon request.

Circle No. 158 on Reader Service Card

Water Valve

Product: Water regulating valve (No. 246) now available in all range models.

Manufacturer: Penn Controls, Inc., Goshen, Ind.



Features: Available in ¾", ½" and ¾" sizes. Suitable for both R-12 and R-22, the new valves can be adjusted with standard wrench or screwdriver. Markings indicate range area for R-12 or R-22.

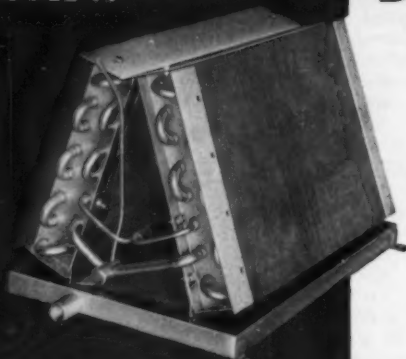
Circle No. 159 on Reader Service Card

Display Doors

Product: Refrigerator glass display door (Ardco).

Manufacturer: Aluminum Refrigerator Door Co., Chicago, Ill.

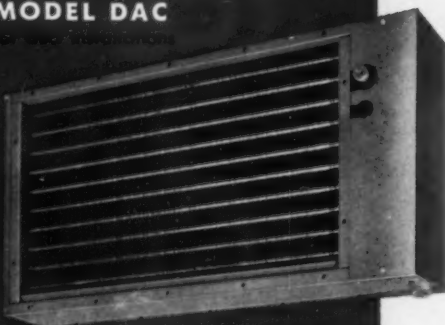
Features: Aluminum constructed, doors are recessed into frame to come flush with frame and cooler wall. Concealed hinges eliminate outside protrusions. Can be removed

MODEL FP

Model	Capacity Btu/hr	Cfm
FP-2	25,000	800
FP-3	37,500	1200
FP-5	61,200	2000

MODEL DAC

For use in plenum or duct



Model	Capacity Btu/hr	Cfm
DAC-2	25,000	800
DAC-3	37,500	1200
DAC-5	61,200	2000

MODEL DAH

For use in plenum or duct



Model	Capacity Btu/hr	Cfm
DAH-2	24,800	750
DAH-3	37,400	1175
DAH-5	64,200	2180

*Capacity based on 80° DB 67° WB entering air, 40° F cooling temperature, 8-12 or 8-22

Dealers! Contractors!

GET YOUR SHARE

OF AIR CONDITIONING JOBS IN THE 2 TO 5 TON MARKET

Three new lines of Larkin air conditioning equipment make it possible for any dealer or contractor to sell complete air conditioning systems to the vast residential and commercial market, where 2, 3, or 5 ton capacities will do the job.

The new, compact, and highly efficient units are designed for installation in the plenum of vertical flow furnaces, in the duct work of forced air systems, or in attic or crawl spaces. The dealer or contractor supplies his own brand of compressor, which can be installed in a remote location to keep noise at a minimum. Larkin Zephyrcon air cooled condensers are ideal companions for the new Larkin air conditioners.

Get the facts on these new Larkin units and be ready to get your share of profitable air conditioning business. See your wholesaler, or write direct for Bulletin 1054.

HERE ARE THE FEATURES:

- Available in 2, 3, and 5-ton capacities.
- Equipped with famous Larkin cross-fin coil, staggered copper tubing with aluminum fins. UL approved.
- Evaporator equipped with pressure-type distributor and external equalizer connection.
- Mastic coated drain pan to prevent sweating.
- Pre-punched holes for easy installation.
- Cases of the DAH and DAC are fully insulated and finished in gray enamel.
- The DAH is equipped with centrifugal fan, permanently lubricated motor, & throw-away filters.



LARKIN COILS INC.
519 MEMORIAL DRIVE, S.E., ATLANTA, GEORGIA

Circle No. 43 on Reader Service Card

without tools by lifting up 3/8". Aluminum rail closure controls closing action and eliminates unnecessary pressure. Available in sizes of 2' x 47"; 2' x 5'3"; 2'6" x 5'6". Custom doors also available.

Circle No. 160 on Reader Service Card

Packaged Equipment

Product: Two lines of packaged air conditioning equipment ("Royal-Aire" and "Dyna-Pac").

Manufacturer: Drayer-Hanson, Div. of National-U.S. Radiator Corp., Los Angeles.

Features: "Royal-Aire" units are available in 3, 5, 7½, 10, and 15 hp. Cabinet-type. Self-contained.

Quiet operation for commercial and industrial use. "Dyna-Pac" for use in light commercial and residential applications. In 2, 3, and 5-ton sizes. Free blow or duct models. Option of air-cooled or water-cooled units.

Circle No. 161 on Reader Service Card

Gas-Fired Furnace

Product: Line of gas-fired warm air furnaces.

Manufacturer: Airtemp Div., Chrysler Corp., Dayton, O.

Features: 57½" high. Occupies 4.3 sq.ft. floor space. A.G.A. approved for 'zero' clearance. Attractively designed for location anywhere in the home. Available in 4

sizes from 81,250 to 150,000 Btuh input. "Down-sweep" burner utilizes all heat transfer surface. Gas manifold assembly incorporates 100% safety feature; safe lighting. Assembly can be replaced or serviced without disconnecting main gas



line. Pilot located for easy observation while adjusting. Filter can be removed without tools. Draft diverter can be removed safely. Other features include corrugated heat exchanger, permanently lubricated blower bearings, and separate fan and temperature limit controls.

Circle No. 162 on Reader Service Card

CORNELL-DUBILIER Motor Capacitors

Protect Your
Reputation

Only the right motor starting or running capacitor can guarantee you a dependable repair job. Only the right capacitor can assure maximum torque. For your own protection, use dependable C-D motor capacitors...the capacitors designed for the job.

There's a C-D capacitor for every known motor starting and run-

ning application. They're "preferred" by motor manufacturers and repairmen alike. Your local C-D Distributor carries a complete stock for immediate delivery. And you can select the right type for your needs from Catalog XTR-MOT. For your free copy, write Cornell-Dubilier Elec. Corp., South Plainfield, N. J.



CORNELL-DUBILIER CAPACITORS

Old Hands at Dependability

Circle No. 44 on Reader Service Card

Needle Valve

Product: Type N-58 needle valve used as gauge or for metering service.

Manufacturer: Kerotest Mfg. Co., Pittsburgh, Pa.

Features: Globe-type needle valve features 1-piece solid forged carbon steel body with stainless steel stem. Available in sizes of 1/8, 1/4, 3/8, and 1/2". Maximum working pressure of 10,000 psi at 70 F, maximum operating temperatures of 500 F.

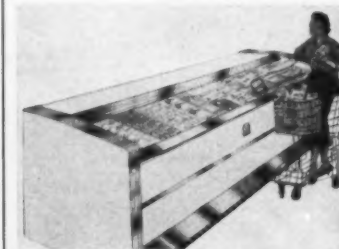
Circle No. 163 on Reader Service Card

Self-Service Merchandiser

Product: Self-service frozen food and ice cream merchandiser.

Manufacturer: Frigid Igloo Mfg. Corp., Yonkers, N. Y.

Features: Narrow 33" depth. Easy accessibility, 33" high front.



Frozen food compartment with automatic defrosting. Refrigeration with heavy duty coils and fans for fast freezing. Breaker strips between in-

ner liner and exterior of case to prevent transfer of cold from inner liner to outer shell. All steel welded construction. "Lacoa" baking enamel exterior. Stainless steel and chrome trim. Metal night cover folds on piano hinges to be stored under back hood of case. Available in 6 and 8' lengths for single or multiple installations. Low or normal temperature models.

Circle No. 164 on Reader Service Card

Duct Tape

Product: Duct tape (Series AC and RF).

Manufacturer: Duro-Dyne Corp., New Hyde Park, N. Y.

Features: AC series (aluminum cloth) and RF series (aluminum reinforced fiber) both available in 60 yard rolls. 2" tape packed 24 rolls per case; 3", 16 per case; 4", 12 per case. Plastic coated to resist effects of water and moisture. Holds under temperature range from 32 F to 250 F. for unlimited time.

Circle No. 165 on Reader Service Card

Refrigeration Oil

Product: Refrigeration oil designated Suniso 3G.

Manufacturer: Sun Oil Co., Philadelphia, Pa.

Features: New all-temperature oil designed to work with all refrigerants, including Freon-22, Iso-tron-22, Genetron 141. Other features include low floc point, greater stability, and increased copper-plating resistance.

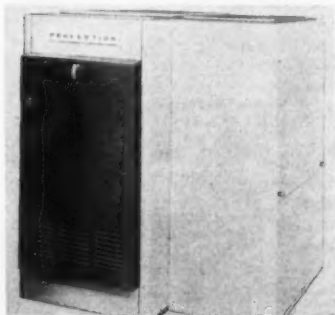
Circle No. 166 on Reader Service Card

Oil-Fired Furnace

Product: Line of oil-fired furnaces.

Manufacturer: Perfection Industries, Div. of Hupp Corp., Cleveland, Ohio.

Features: Available in standard or deluxe and in basement or high boy models. Can be installed in



limited space in basements, alcoves, or utility rooms. Operates quietly because of newly designed oil burner, combustion chamber, blower, and other air handling components. Burner noises and flame pulsation eliminated with new burner and improved stainless steel combustion

chamber. Eggshell white with silver-tone brown trim. Controls are assembled at factory. Oil burner may be replaced readily with gas burner. "Regulaire" feature controls air flow to insure even floor-to-ceiling heat. Operated by simple bi-metal coil. "Regulaire" modulates flow of warm air. Basement model available in 96,000, 112,000, and 150,000 Btu in both standard and deluxe.

Circle No. 167 on Reader Service Card

End Suction Pump

Product: End suction-type BC general purpose pumps.

Manufacturer: Aurora Pump

Div., New York Air Brake Co., Aurora, Ill.



Features: Close-coupled horizontal, flange-mounted vertical, base-mounted vertical, and pedestal-mounted horizontal units. From 1/4 to 40 hp at 3,500 rpm; 1/4 to 20 hp at 1,750 rpm. May be changed readily from packing to seals by

Insulbond!

A new LAYKOLD adhesive for bonding impervious insulation blocks



After mixing, INSULBOND soon develops a buttery, easy-trowelling consistency.

INSULBOND is the new cold-applied, fast-setting cement specifically developed for bonding moisture-impervious insulation materials.

INSULBOND sets without moisture dissipation; holds blocks firmly in place.

INSULBOND is easy to prepare on the job. Just mix cold, fluid, special Laykold® binder and Lumnite Cement. The resultant mix soon becomes "buttery" and ready for spreading. Blocks are then set in place and adhesive allowed to cure.

Use the coupon for full technical data.



American Bitumuls & Asphalt Company

320 Market St., San Francisco 20, Calif. Perth Amboy, N. J.
Baltimore 3, Md. St. Louis 17, Mo. Cincinnati 38, Ohio
Mobile, Ala. San Juan 23, P. R. Tucson, Ariz.
Inglewood, Calif. Oakland 1, Calif. Portland 7, Ore.

American Bitumuls & Asphalt Co.
P. O. Box 3495, San Francisco, Calif.

- ☐ Please send me specification G-35 covering the use of INSULBOND.
☐ Please send me information on all your insulation adhesives and coatings.
☐ Please have your Field Engineer contact us.

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Company.....

Address.....

City & State.....

Circle No. 45 on Reader Service Card

means of interchangeable inserts — mechanical seal, packing, water-cooled stuffing box with mechanical seal, and water-cooled packing box. Wide gasket seals prevent leakage between casing and mating parts. Balancing rings keep bearing load to minimum.

Circle No. 168 on Reader Service Card

Room Air Conditioner

Products: Line of room air conditioners in Bantam and Compact series.

Manufacturer: Philco Corp., Philadelphia, Pa.

Features: 12 new models including 2 reverse-cycle heat pump

models. 1, 1½ and 2 hp. A negative ion generator (Ionitron) is available in all twelve models. Acts as electronic dust magnet to filter out microscopic dust particles. As optional accessory, Ionitron can be factory installed in larger models, plug-in kit available for smaller models.

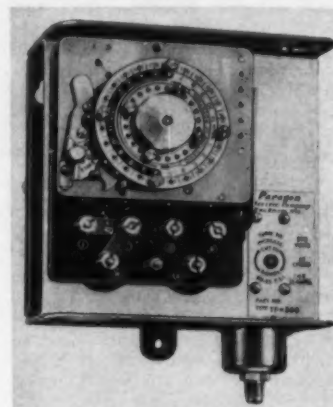
Circle No. 169 on Reader Service Card

Defrost Control

Product: TP-300 Series defrost control for electric heat defrosting, hot gas defrosting, and compressor shut-down defrosting.

Manufacturer: Paragon Electric Co., Two Rivers, Wis.

Features: Connected to suction side of refrigeration system by copper tube. Time control may be set to defrost at predetermined intervals.



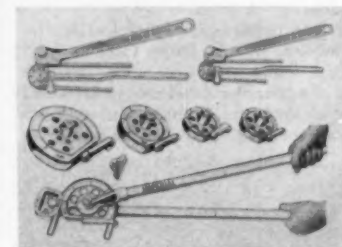
Will break circuit to compressor and energize heater circuit. Pressure may be adjusted on control from 30 to 55 lbs. Defrost period termination fail safe built into time control dial. Fail safe pins are adjustable for 45, 105, or 165-minute terminations. If equipment is not brought back to refrigeration cycle by increase in pressure, pins will transfer contacts in time control cock to refrigeration cycle. Frequency of defrost is one to eight cycles per day with minimum of three hours between successive defrost cycles.

Circle No. 170 on Reader Service Card

Tube Bender

Product: "Blue Dot" combination benders for hard or soft tubing.

Manufacturer: Imperial Brass Mfg. Co., Chicago, Ill.



Features: Makes bends up to 180° and can be used for copper, aluminum, steel or stainless steel tubing. Tubing sizes handled range from ¼ to ¾" o.d. Benders for four or more sizes of tubing furnished in metal kits.

Circle No. 171 on Reader Service Card

Island Display Case

Product: Self-contained, low-temperature, island (ILI-8) merchandiser case.

Manufacturer: Warren Co., Inc., Atlanta, Ga.

Features: 8' model for ice cream and frozen foods. Automatic electric defrosting system. Acid-resistant

"Losing Money on 'CALL BACKS'?"

"Curvall has practically ended gasket 'call-backs' for me, and that means fast gasket jobs with fast profits. By keeping the

11 Curvall sizes with me at all times, I can now replace most any refrigerator or freezer door gasket on my first trip. You see,

Curvall's 11 sizes fit almost every unit made within the last 10 years. Besides, they give the same custom, 'fresh-from-the-factory' appearance as the original frame gasket — but at much less cost."



FOR REFRIGERATOR AND FREEZER DOORS

Remember too, Curvall cuts your installation time in half, since it shapes itself to rounded corners, eliminating notching—fits perfectly on the straight sections of the door as well.

Ask your wholesaler about Curvall now. Start cashing in on gasket jobs.



Circle No. 46 on Reader Service Card

SCOTSMAN'S Golden 50



Get Your Share of the Profit Cake with SCOTSMAN'S Complete Ice Machine Line

NOW THERE ARE FIFTY MODELS in the Scotsman Ice Machine line! Fifty golden opportunities for you to make this the biggest profit year you've ever had! Never before have so many Super Cubers, Super Flakers, Super Bins and Drink Dispensers been offered to the trade!

Yes, now you can sell every prospect a Scotsman ice machine. *Does he need a cuber?* He can choose from 8 Super Cubers! *Does he need crushed ice?* You can

offer 24 Super Flakers to fit his exact needs. *Does he need a drink dispenser or ice bin?* You have just the right model to offer when you sell Scotsman!

Prospects are everywhere. Hospitals . . . schools . . . theatres . . . super markets . . . hotels . . . liquor stores . . . restaurants . . . clubs—there are scores of places that need and want Scotsman ice machines. Will you be the one to sell them in 1958?

Restaurants Schools Hotels Super Markets Liquor Stores Taverns Hospitals Theatres



Sell Them All With Scotsman!

Send me complete information about a dealer franchise for Scotsman Ice Machines.

NAME _____

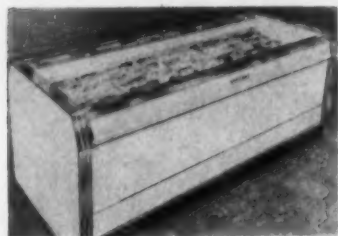
ADDRESS _____

CITY _____ ZONE _____ STATE _____

Mail to:

SCOTSMAN — Queen Products, Inc. 192 Front Street, Albert Lea, Minn.
Subsidiary of KING-SEELEY Corporation

white porcelain on both sides and on ends. Stainless bumper rail at bottom of nameplate band. Thermome-



ter recessed in one price rail. Multi-finned coil with two circular fans. Circle No. 172 on Reader Service Card

Dual-Purpose Equipment

Product: Several lines of refrigeration-air conditioning equipment.

Manufacturer: Larkin Coils, Inc., Atlanta, Ga.

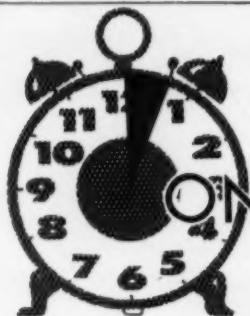
Features: Model ELT (shown) electric defrost low-temperature, "Humi-Temp" line with 10 models. Capacity range from 2600 to 24,000 Btuh at 10 F, TD. Series of BFC "Zephyrcon" air-cooled condensers. Belt-driven. Five models from five to 20 tons. Line of gravity coils with baffles, designed for walk-in coolers. Line of Model HT "Humi-Temp" units. Hinged drain pan lowers for easy access to fan and coil. Two lines of low-temperature

units with "Frost-o-Trol" hot gas defrost. Model RWL wall-type unit — capacity from 1100 to 2500 Btuh at 10 F, TD; Model RML — for mounting behind mullion — same



capacity range as well units. Redesigned line of Model LT "Humi-Temp" units with "Frost-o-Trol" hot gas defrost.

Circle No. 173 on Reader Service Card



IT TAKES ONLY 3 MINUTES

of a serviceman's time to seal hermetic terminal leaks on the job in all refrigeration and air conditioning units, with . . .

WATSCO

TERMINAL SEALS



Terminal leaks on sealed units are stopped instantly and permanently with WATSCO Terminal Seals. All work is done from the outside of the dome, and no special tools are required. Do it right on the job.

Watsco Terminal Seals are packed three to a set and complete with all washers, gaskets, and complete instructions.

Packed with every terminal Seal Kit . . . a special locking nut, complete with instructions, to facilitate removing corroded and tight nuts . . . without twisting or damaging the terminal post.

PAT. NO. 2,451,701



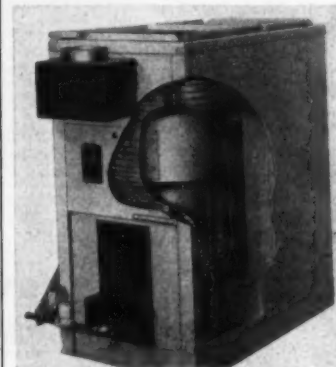
1020 EAST 15th STREET, HIALEAH, FLORIDA.

Circle No. 48 on Reader Service Card

Gas-Fired Conditioner

Product: Series of five gas-fired, winter air conditioners.

Manufacturer: Thatcher Furnace Co., Garwood, N. J.



Features: Heat exchanger has electrically welded seams to prevent infiltration of air and escape of unpleasant odors. Single-port, up-shot burner designed to provide clean and efficient fuel consumption. Btu's at bonnet range from 64,000 to 152,000. Two smaller models are equipped with direct drive blowers. Automatic humidifier is optional.

Circle No. 174 on Reader Service Card

Contact Point Units

Product: Contact point refrigerator base and display case units.

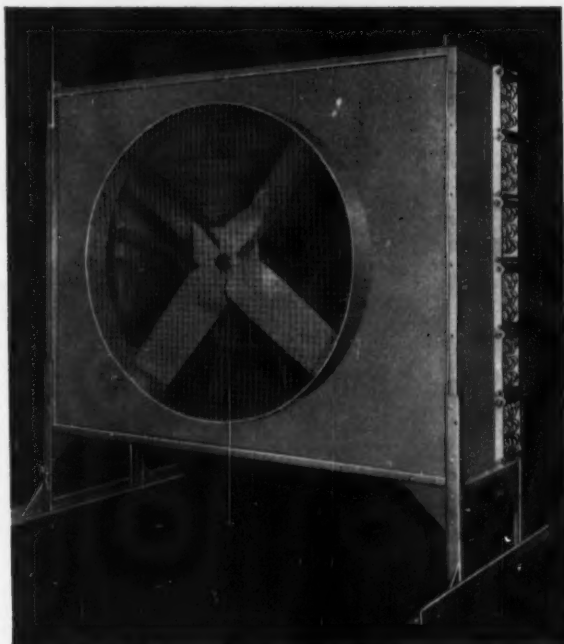
Manufacturer: Dunhill Food Equipment Corp., Brooklyn, N. Y.

Features: Constructed for back-to-back installation with sandwich stands, steam tables, bobtails, and other food preparation units. Equipment separates actual food preparation processes from direct customer

9 - 11 - 15 - 20 - 25 - 30 - 40 - 50

NOW...
8 SIZES
UP TO
50 TONS

In a Single Unit



McQuay "AB" Belt Drive AIRCON

Remote, waterless condensers available in eight sizes, 9, 11, 15, 20, 25, 30, 40 and 50 ton nominal capacities in individual units with single fan and motor assemblies. Coils constructed of copper tubes with McQuay Ripple Fins. Lifetime ball bearing and slow speed propeller type fan.

McQUAY AIRCON *Air Cooled Condensers*

Here is the finest, the most complete, most versatile, the most efficient line of remote air cooled condensers on the market, as well as the largest available in a single unit. There are eight McQuay "AB" Belt Drive AIRCON Air Cooled Condensers from 9 to 50 ton nominal capacities. McQuay also offers the "AD" Direct Drive AIRCON Line of Air Cooled Condensers in 2, 3 and 5 ton nominal capacities. All McQuay AIRCONS are designed for multiple circuiting so that two or more separate refrigeration systems can be connected to the same condenser.

PEAK PERFORMANCE ALL YEAR 'ROUND WITH "SEASONCONTROL" MODULATION.

The McQuay "Seasoncontrol" modulates the condenser capacity in accordance with the weather for proper operation at all times. There is a McQuay representative in every principal city, or write McQuay, Inc., 1643 Broadway St., N.E., Minneapolis 13, Minn.

McQuay
Means Quality

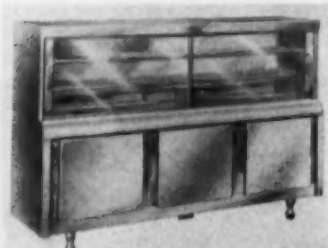
McQuay INC.



**AIR CONDITIONING
 HEATING
 REFRIGERATION**

Circle No. 49 on Reader Service Card

view yet provides necessary refrigerator display space. Counter and table service can be speeded for



waitresses to help themselves without entering food preparation area. Remote or self-contained. Body of

16-gauge, zinc-coated steel reinforced with steel structural members. Easy-to-clean, stainless steel front facing. Full-vision glass paneled double sliding doors mounted on roller bearings have large "easy-grip" handles. Heavy-duty steel wire shelves carry array of foods in attractive display. Pastry display cases come in varying lengths measuring 20" deep and 20" high.

Circle No. 175 on Reader Service Card

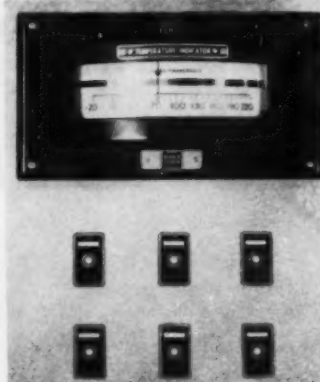
Resistance Thermometer

Product: Electronic resistance thermometer for indicating, at one central location, temperatures of re-

motely located check points throughout building's heating and air conditioning system.

Manufacturer: Barber-Colman Co., Rockford, Ill.

Features: Wire resistance elements are located remotely and connected to corresponding switch on



central panel. Consists of indicating meter, bridge and power supply, and as many sensing elements and selector switches as necessary to check temperatures at all control points required. Four types of sensing elements available are room, duct, immersion, and outdoor.

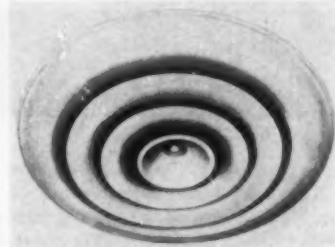
Circle No. 176 on Reader Service Card

Fixed Cone Diffuser

Product: Model B-3, fixed cone diffuser.

Manufacturer: Carnes Corp., Verona, Wis.

Features: Deeper outer ring eliminates ceiling smudging and ag-



ing, manufacturer says. Three inner cones instead of two. Cones are removed easily for installation. Ideal for flush or stub duct mounting.

Circle No. 177 on Reader Service Card

Baseboard Line

Product: Newly designed "Art-Comfortline" baseboard.

Manufacturer: National-U.S. Radiator Corp., Johnstown, Pa.

Features: Home owner now can use picture windows that run nearer to floor, because of lower baseboard height. Repositioning of air circulation openings and rounding off of corners gives more streamlined appearance. A house may be all fin-



**The NEW Serviceman
"Super-heat" Thermometers**

**Now check superheat
...EASIER...FASTER...BETTER**

Now comes a revolutionary development in superheat testing. The kit illustrated here gives you the easier, faster, and above all the more accurate superheat readings you need for that all-important adjusting and setting of the expansion valve.

All the difficulties of testing with glass tube thermometers—positioning, reading, costly breakage—are wiped out. The small bulbs of these distant reading dial thermometers are easily attached exactly where they should be. The distant reading feature permits placing the dials where they can be readily seen and compared. The widely spaced one-degree markings in the testing zone assure far more accurate reading than is possible with the closely-spaced markings of glass tube thermometers.

Note the many features described opposite—particularly the method of insulating against ambient temperature... which assures more accurate readings... better results.

At their moderate price you can own these long-lived "Super-heat" Thermometers at a fraction of the cost of using the breakable, short-lived kind!

Write for facts or See Your Wholesaler

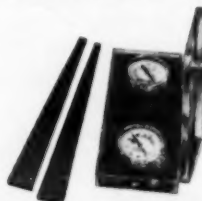
MARSH INSTRUMENT CO. Sales Affiliate of Jas. P. Marsh Corporation
Dept. P Skokie, Ill.

Marsh Instrument & Valve Co. (Canada) Ltd., 8407 103rd Street, Edmonton
Alberta • Export Dept., 3501 Howard St., Skokie, Ill.

MARSH Refrigeration Instruments

Circle No. 50 on Reader Service Card

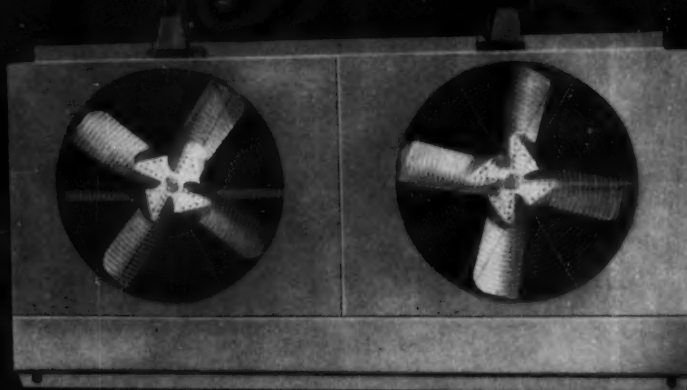
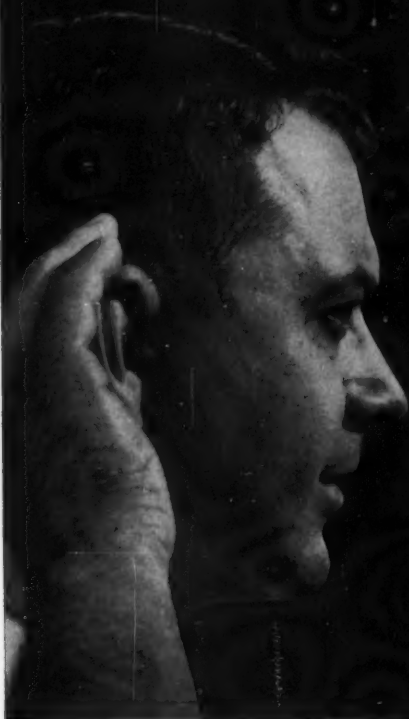
The "Super-heat" testing kit contains two identical, 2-inch dial-size thermometers (one for evaporator inlet and one for outlet) in attractive, highly polished brass cases. Dials are graduated -40° to $+65^{\circ}$ F. Widely spaced one-degree calibrations in testing zone are guaranteed accurate within one marking plus or minus. (Glass tube thermometers have crowded markings.) Each thermometer has a 12-inch capillary tubing. Bulbs are small for use in tight quarters. Kit contains two non-absorbent insulating wrappers for easy attachment of bulbs to evaporator tubing... also to insulate bulbs from ambient temperature. (Field studies have shown that for the highly accurate readings essential to superheat testing, ambient temperature must be insulated from thermometer bulbs.)



Thermometers and "wrappers" are neatly held in durable, transparent plastic box with convenient hinged cover, measures only 3" x 8" x 1 1/4".

HALSTEAD & MITCHELL ENGINEERS PROVE . . .

A 100-TON COOLING TOWER CAN BE QUIET



HERE ARE TWO, NEW LARGE SIZES ADDED TO HALSTEAD & MITCHELL'S COMPETITIVELY-PRICED EC COOLING TOWER LINE

THE EC LINE. The addition of the 80- and 100-ton capacity towers extends the range of the more-value-per-dollar EC line. All 12 models, 5 to 100 tons, have outstanding features never before offered in this price group.

These include increased corrosion resistance due to rugged, 14-gage steel cabinets (12-gage sumps on the largest sizes) —weatherized by application of Vinsynite, Vinyl Zinc, and Chlorinated Rubber coatings. Exclusively, H&M offers pressure-creosoted wetted deck surfaces with the industry's only 20-Year Guarantee against rotting or damage due to fungus attack. New, sealed fan bearings are lubricated for life. Gravity-type distributing pans reduce pumping head, and cut down windage losses. Sump water levels are automatically controlled by integral float valves.

QUIET. Large diameter, four-bladed, deep pitch fans are belt-driven at low speeds by special weather and splash-proof motors. The EC-80 and EC-100 are driven at speeds of only 400 and 450 RPM. They're really quiet! Twin fans and drives power the three largest sizes, and all fans are of zinc plated, chromate dipped mild steel.

EC Series Cooling Towers are available in capacities of 5 thru 100 tons in standard, factory assembled models, or as Take-Aparts (ECK Series) for difficult-to-get-at installations. Residential, direct-drive ECD Series, with all the custom features and also competitively priced, come in capacities of 2 thru 7½ tons. Call your nearest Halstead & Mitchell wholesaler for delivery and prices or write: Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

WRITE FOR COMPLETE DETAILS



ished before heating is installed. This includes plastering of walls and even installation of wall-to-wall carpeting. Baseboard can be installed



easily and quickly. Heating elements — copper tubing with permanently bonded aluminum fins — are held in place with improved bracket and

support hook that insures "free-floating" and elimination of operating noise from expansion and contraction of elements. Front panels, corner pieces, splicers and access doors snap easily into place without screws or tools. Stocking problem simplified with baseboard suitable for both recess mounting and flush installations.

Circle No. 178 on Reader Service Card

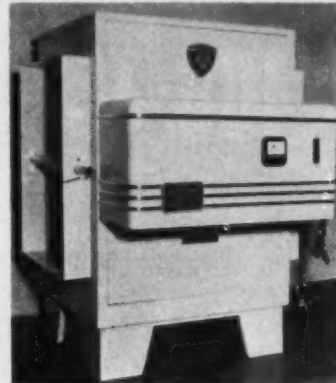
Electronic Air Cleaner

Product: Addition of electronic air cleaner (6-100) to Model 6 line.

Manufacturer: Trion, Inc., McKees Rocks, Pa.

Features: Capacity of 800 to

1000 cfm. Sized to fit furnace with rating of 80,000 to 100,000 Btu, or central air-cooling unit of 2-ton capacity. Enclosed in eggshell and bronze finished cabinet. May be floor



mounted or suspended. Attractive cabinet style permits installation in recreation. Efficiency rating of 90% in removal of pollen, germ-laden dirt, dust, and smoke, manufacturer says.

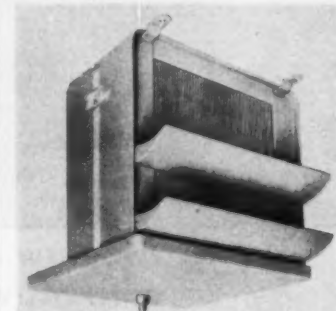
Circle No. 179 on Reader Service Card

Unit Cooler

Product: Large capacity unit cooler designated 'Pacemaker'.

Manufacturer: McQuay, Inc., Minneapolis, Minn.

Features: Designed for walk-in



coolers and chill rooms, Model U-4400 available in 10 sizes ranging from 4,500 to 44,000 Btuh at 10° T.D. Aluminum fin, copper tube coils. Hangers are slotted for easy installation.

Circle No. 180 on Reader Service Card

Air Flow Tester

Product: Air flow tester (Floret).

Manufacturer: Bacharach Industrial Instrument Co., Pittsburgh, Pa.

Features: Held in hand while checking operation of heating and ventilating installations or any other kind of mechanical air circulation system. Other uses: checking cold air discharge from cooling sections of reach-in refrigerators, display cases, and other cooling units; tracing air movement in refrigerated or heated spaces; spotting drafts in



19 TIMES AS EFFICIENT

Molecular sieves, the newest class of adsorbents, are the most efficient desiccants on the market . . . have the ability to adsorb at high temperatures up to 19 times more water.

- Eliminate acid corrosion
- No capacity loss due to oil adsorption
- Minimum of pressure drop
- Greater reserve capacity

SMALL IN SIZE . . . ONLY FIVE SIZES HANDLE 1/4 TO 10 TONS

A standard drier can be reduced to a fraction of its usual size with no loss in drying capacity because of greater efficiency of Molecular Sieves. Only five sizes are necessary to handle installations up to 10 tons. This means a minimum inventory and stock control.

ALL COPPER AND BRASS CONSTRUCTION WITH MONEL WIRE CLOTH FILTERS

REASONABLY PRICED PERFORMANCE RATED

KMP Moisture Magnets are tested and rated in accordance with ARI STANDARD 710

WRITE for full information. Inquiries welcomed.

KMP

KENMORE MACHINE PRODUCTS, INC.

LYONS, NEW YORK

Circle No. 52 on Reader Service Card

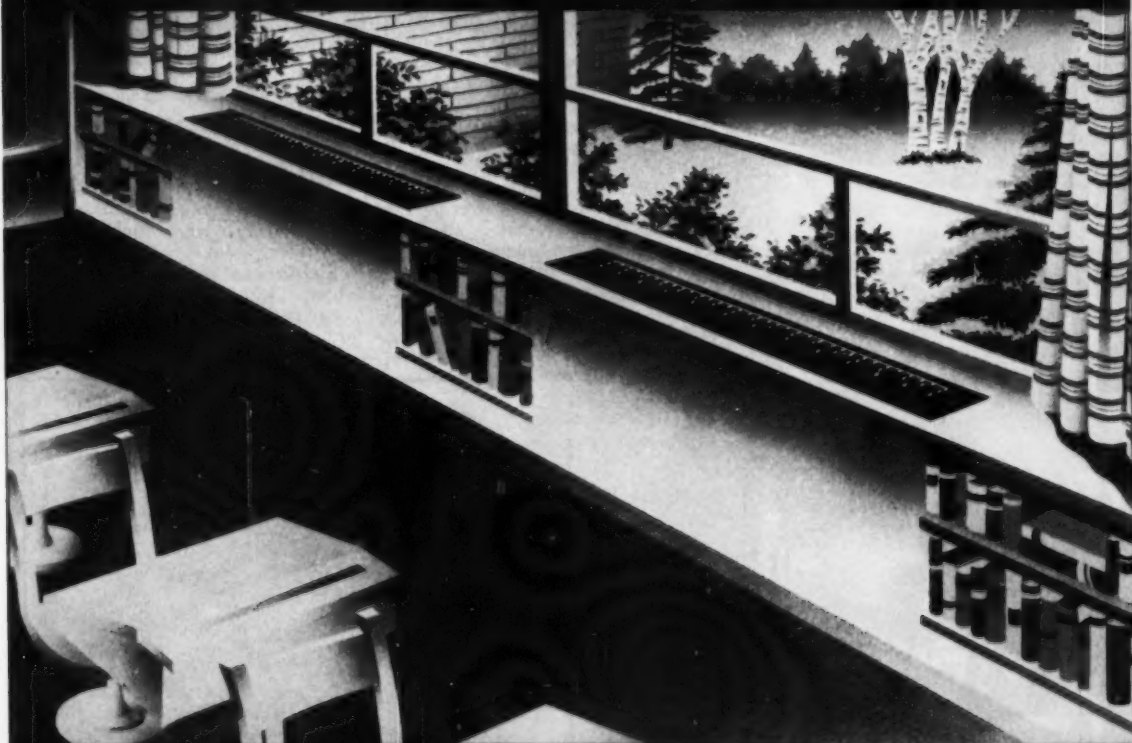
MEMO:

Dear Bill:

If you are building a new school or planning to renovate an old one, you unquestionably need the new Anemostat School Catalog.* Suggest you write for your copy to Anemostat Corporation of America, 10 East 39th Street, New York 16, N. Y.

Tom

ANEMOSTAT ALL-AIR HIGH VELOCITY SYSTEMS FOR SCHOOLS



A NEW DEVELOPMENT FOR HEATING AND VENTILATING

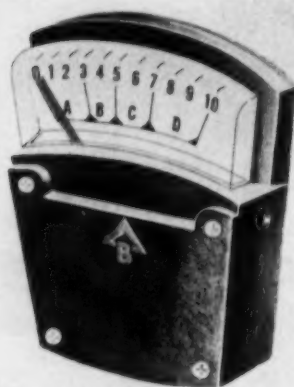


* Contains performance and dimension data, control diagrams, everything you need to specify.

© Anemostat Corporation of America

Circle No. 53 on Reader Service Card

occupied rooms; detecting drafts or leaks around doors and windows; and checking air flow at registers, grilles, diffusers, and convectors. Operates on deflecting vane principle. Air stream flows through



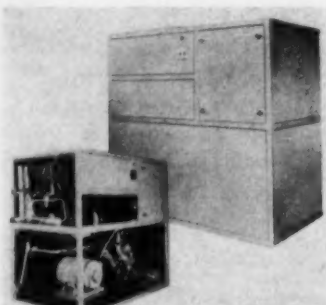
unit's case causing the vane to move which then is transmitted to pointer whose full scale deflection represents air velocity of about 1,000 fpm. Circle No. 181 on Reader Service Card

Packaged Conditioner

Product: Packaged air conditioning unit ("CPU").

Manufacturer: Dunham-Bush, Inc., West Hartford, Conn.

Features: Self-contained. Summer-winter conditioner also func-



tions as evaporative/condenser water saver. Available in 10, 15, 20, 30, and 40 tons. Grey enamel casing. Circle No. 182 on Reader Service Card

Ice-Making Equipment

Product: Line of ice-making equipment.

Manufacturer: York Corp., subsidiary of Borg-Warner Corp., York, Pa.

Features: Can produce any size ice from large crescents to thin ice wafers. When selector dial is operated specific size and shape is produced. Three selector-dial models are available. Air-cooled unit makes 200 lbs. of ice daily; water-cooled machine, 225 lbs. per day; and larger

water-cooled model, 450 lbs. daily. Also in line are three air-cooled and three water-cooled ice flake machines with capacity range from 300 to 8000



lbs. per day. Cutter outside drum eliminates possibility of cutters damaging freezing tubes.

Circle No. 183 on Reader Service Card

Room Air Conditioner

Product: Line of room air conditioners.

Manufacturer: Mitchell Mfg. Co., Chicago, Ill.

Features: 62 pound portable (shown) with carrying handle uses 6.9 amps, operates on 115v ac, and measures only 16-7/8" wide.



**Positive
NO LEAK**
Seal for:
OIL
GAS
STEAM
FREON
WATER
AMMONIA
PROPANE
BUTANE
GASOLINE
ETC.

...with
PIPETITE-Stik
Pipe Joint Compound

You get a perfect joint every time with PIPETITE . . . as easy as 1-2-3 strokes across the pipe threads. Approved by industrial laboratories and government agencies. For all metal and plastic threads. Non-toxic . . . non-corrosive . . . contains no lead. Withstands pressures to 10,000 p.s.i., temperatures to 750° F.

Get it in the convenient, economical 12-stick package. Your supplier has PIPETITE Stik . . . or write us for a sample.



LAKE CHEMICAL CO.
3082 W. Carroll Ave., Chicago 12, Ill.

Circle No. 31 on Reader Service Card



Get the lion's share of meaty

facts out of this issue of Commercial Refrigeration & Air Conditioning before you pass it along to the next reader. Leaf through once more: if you want full details on any item, the Reader Service Card will bring them to you quickly. No postage needed.

11-7/8" high, 15" deep. Expanding, contracting filler panels fit any size window. Other models feature floating air chamber to keep heat out of air stream and absorb noise and vi-



bration, variable capacity ventilating and exhaust system, and washable filters of "Dynel" fibers. Three heat pumps available as standard reverse cycle or reverse cycle with automatic defrost controls.

Circle No. 184 on Reader Service Card

Auto Air Conditioner

Product: "Mark IV" line of automobile air conditioners ("Monitor").

Manufacturer: John E. Mitchell Co., Dallas, Tex.

Features: Fits under today's lower dash boards. Six louvered outlets, rotatable through 360°, give



positive air directional control. Discharge air temperature may be varied as much as 30° or more on hot summer days. Twin blowers replace noisy fans. Illuminated signal on front of case indicates when clutch is on and when unit is cooling in proper range.

Circle No. 185 on Reader Service Card

Duct Connection

Product: Flexible duct connections (Flexi-Duct, C-6, C-10).

Manufacturer: Grant Wilson, Inc., Chicago, Ill.

Features: Confines noise and vibration to its source on heating, cooling and ventilating equipment. Used on blower, furnace and plenum joints, on take-offs and main or branch duct systems. Made of heavy woven canvas fabric. Available in 6 (C-6) and 10" (C-10) widths, 100-ft rolls individually cartoned. 12

cartons per case of C-6, 4 cartons per case of C-10.

Circle No. 186 on Reader Service Card

Truck Body

Product: Series of 18 utility truck bodies.

Manufacturer: Reading Body Works, Inc., Reading, Pa.

Features: Two full width cross-sills. Bodies from 1/2 to 1-ton units. Constructed of 12, 14, and 16-gauge steel. Understructure of 12-gauge steel. Variable compartment and shelving arrangements provide large storage and load areas. Compartment capacity ranges from 35 cu.ft.

in 1/2-ton models to 68 cu. ft. in 1-ton models. Compartment doors have stainless steel hinge pins. Double paneled with die-formed water traps. Mount on standard chassis. All-weld-



ed. Available in fully enclosed panel bodies with permanent roof or canopy tops for both single and dual-wheel chassis. Overall body lengths at floor line are 78 to 108". Inside floor areas range from 26 to 38 sq.ft.

Circle No. 187 on Reader Service Card

NOR-LAKE offers FINER REFRIGERATION

For Business and Home; here's how

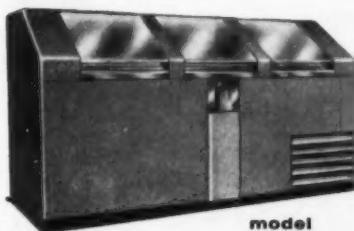
FREE Details on These Outstanding Models—Use Coupon Below



model
D30W

Professional quality home freezers

Now, Nor-Lake's Deluxe Freezer offers the home all the sturdiness and professional dependability of a commercial freezer. 3 1/2" Fiberglas insulation, Tri-Pli door sealers, non-rusting, non-odorous aluminum liners assure maximum food protection. Sharp, constant freezing guaranteed with individually coiled shelves. Triple hinges prevent cold-losing "door sag." Audio alarm signal warns of heat loss or power failure. 960 lb. capacity shown. Models to 560 lb.



model
SCF-6

Finest commercial coolers

This beautiful slant-top cooler assures complete and constant refrigeration. Blower constantly circulates frigid air around bottles. Heavy-duty copper coils used throughout. 3" Fiberglas insulation, galvanized interior and heavy gauge steel construction mean years of dependable, economic service. Greater convenience and storage capacity with disappearing doors and adjustable bins. Available in lengths 48" to 115".

All models available in stainless steel.

For better freezing, cooling or storing, look to the nation's northland and—



NOR-LAKE, Inc.

2nd & Elm

Hudson, Wis.

Phone:
Hudson 523

Dept. 204

Please rush FREE illustrated literature on:

Freezers ☐ Coolers ☐

Name

Address

City State

Circle No. 56 on Reader Service Card

Handy Tube Bender

**Smoothly Bends ANY
Pipe or Tubing**



$\frac{3}{8}$ " to $1\frac{1}{8}$ " O. D.



● Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle. U and offset—every time. Eliminate need for els. No more guesses—no kink! Save enough time, labor and money on ONE job to pay for your Handy Bender.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.

430 N. WILLOW ROAD—EVANSVILLE, IND.

YOU'RE THE BOSS . . .

Continued from page 41

needs the services you can provide.

If you have not already joined, see about a membership in one of the service clubs or other civic organizations. Be certain to support your trade association. Be a good citizen, participate in worthwhile community activities.

Create an atmosphere that builds confidence in your customers and your employees. Most of all, be enthusiastic.

O.K., so you've set your policy. Now, how do you check to be sure that it is being properly carried out?

First of all, be a good listener and a good looker, if you want to find out what is going on in your business. Listen to what your customers, suppliers, and employees have to say. Make sure that you get out from behind the desk often enough to roam around your place of business and see what is going on. Evaluate what people are doing,

and plan corrective measures for things you see going wrong.

You can check on the outside too. Send all customers a thank-you card after each installation, and ask them if they were satisfied with every phase of the work.

Remember, once you have set the policies and goals of the company, it is up to you to see that your workers carry them out.

Once you have your policy clearly established, you will be better able to make decisions in other areas. You will be able to make the proper forecast of future business and profits. You will be able to arrange the necessary controls and financing. You will be able to build the kind of employee relations policy that ties in with your over-all business philosophy.

Also, it will lessen the chance of your falling for some carload deal, or some fantastic advertising program, that a fast talking salesman might offer you. You will always appraise such proposals in terms of your established business policy.

In brief, your business philosophy and policy will become the cornerstone of a program of successful business management.



FLEXIBLE OPENS NEW WAREHOUSE, OFFICE

Flexible Tubing Corp., has opened a new warehouse and sales office in Hillside, Ill.

The new office and warehouse will be under the management of Stephen K. Hawkins, and will serve Illinois, North and South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, the upper peninsula of Michigan, and southwestern Ohio.

Flexible also is transferring its west coast sales and manufacturing operations to a new building in Anaheim, Calif.

GEN. CONTROLS EXPANDS

General Controls Co. and Hammel-Dahl Co., industrial control valve manufacturers of Providence, R.I., jointly have announced that as of Jan. 2, 1958, the business heretofore conducted by Hammel-Dahl will be operated as a major division of General Controls.

Circle No. 55 on Reader Service Card



Yessir, I'm a nudist myself, but I'm sure
YOU will enjoy wearing my merchandise.

AMERICAN-Standard^{*} BRINGS YOU AN UNPRECEDENTED USE-IT-YOURSELF AIR CONDITIONING OFFER

It's hard to sell a product you don't use yourself—especially when the customer knows that you don't. Yet some air conditioning dealers are still living in non-air-conditioned homes . . . and conduct business from non-air-conditioned shops and showrooms.

To eliminate this sales handicap, American-Standard Air Conditioning Division presents a new and unique Use-It-Yourself Air Conditioning Offer. This offer enables you to install full-scale air conditioning in your home or place of business at a low cost you would hardly have believed possible. We've gone all out to make the deal irresistible because we know that when your friends, neighbors or customers actually see and feel the benefits your system produces, they too will want air conditioning. As the Du Pont Survey pointed out, *neighbors* of central air conditioning users are the best source of additional sales by a ratio of more than 3 to 1!

Nothing sells air conditioning like air conditioning itself. So *Use-It-Yourself* and watch your sales grow. Your local distributor for American-Standard Air Conditioning Division products is the man to see.

*AMERICAN-Standard and Standard[®] are trademarks of American Radiator & Standard Sanitary Corporation.



AMERICAN-Standard
AIR CONDITIONING DIVISION

Circle No. 57 on Reader Service Card

& AIR CONDITIONING • FEBRUARY, 1958

21



AURORA[®] Centri-Pac

TYPE B CLOSE-COUPLED PUMPS

A comprehensive line of outstanding performers quickly available for a wide variety of important duties.

MOTOR SIZES
1/6 HP to 5 HP

CAPACITIES
to
150 GPM

HEADS
to
140 FT.

RANGE
from
3/4" x 1"
to
1-1/2" x 2"

APPLICATIONS
CENTRI-PAC pumps are ideal as an integral part of original Equipment Manufacturer's product such as air conditioning units, cooling towers, evaporator coolers, milk coolers, hot water circulators etc., also for general service.

LOW
NPSH

Here's WHY Centri-Pacs Deliver MORE

STUFFING BOX—Mechanical seal only.

SPEEDS—3,500 RPM single and three phase.

VOLTAGE—1/2 HP and larger are dual voltage.

MOTORS—1/6 to 5 HP drip-proof NEMA standard. All 1/2 HP and smaller, single phase, have overload protection built in.

LOW NPSH—Designed to meet critical suction conditions.

COMPACT—Space saving combines with ruggedness and high quality.

QUIET—Smooth running with controlled noise level.

ECONOMICAL—High efficiency insures power savings.

CONSTRUCTION—Bronze fitted only.

SHAFT—Stainless steel motor shaft.

SEALS—Stainless steel parts—high quality carbon stationary seal ring—minimum of rubber for best performance on hot liquid applications.

IMPELLER—Advanced design—exactly balanced for smooth, quiet operation—all for peak performance.

WRITE for BULLETIN 119 PKG

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY

21 LOUCKS STREET • AURORA • ILLINOIS
EXPORT DEPARTMENT — Aurora, Illinois — Cable Address "NYABINT"



Circle No. 58 on Reader Service Card

Circle No. 59 on Reader Service Card



Direct Draw
Refrigerated Faucets



Upright Low Temperature
Freezer

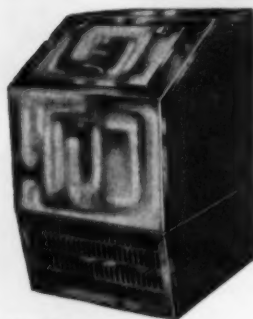


La Crosse Self-Contained
Bottle Cooler



Bluebird Bottle
Cooler—Namata

EASIER SALES FOR YOUR . . . WITH THE COMPLETE LINE FROM LA CROSSE



SENIOR KUBE KING

A real leader in fast sale-ability . . . the Senior Kube King has capacity of approx. 3200 crystal clear Kubes every 24 hours . . . low water consumption . . . top dependable performance year after year.



EXPORT OFFICE — 125 BROAD STREET • NEW YORK CABLE — EXIMPORT

the in LIQUID EYE® POSITIVE SEALING INDICATORS ... your sign of DEPENDABILITY and QUALITY USE IT WITH CONFIDENCE

- Pyrex glass, double pressure sealed at sides and ends.
- Positive check of refrigerant condition.
- Unrestricted full line flow.
- Spring-loaded gaskets insure positive seal against leakage.
- Guaranteed to 500 psi.
- Precision made.

USED BY LEADING MANUFACTURERS
ON ORIGINAL EQUIPMENT

Sold by leading wholesalers everywhere
Write today for Catalog E-57 covering the complete Allin line



Illustrated: 200
Series, 1/2" or
3/4" female by
male flange



ALLIN MANUFACTURING CO.
410 N. Hermitage Ave. • Chicago 22, Illinois
Over 1,000,000 Liquid Eyes Sold to Date!

Circle No. 60 on Reader Service Card

useful BULLETINS BOOKLETS CATALOGS

(For News of New Products turn to page 60)

VALVES AND ACCESSORIES for refrigeration applications are illustrated in new catalog from Henry Valve Co. Includes product features, specifications and dimensions for complete product line.

Circle No. 103 on Reader Service Card

SUGGESTED WIRING DIAGRAMS for its new Model 8000 Series time controls are included in Bulletin No. 5848 from Paragon Electric Co., Two Rivers, Wis. An addition to its "D-Frost-O-Matic" line, the series has been designed to meet the requirements of the refrigeration industry for an accurate, and easily set defrost control. Included are wiring diagrams for hot gas defrosting and electric heat defrosting.

Circle No. 104 on Reader Service Card

ENGINEERING DATA about industrial thermometers is listed in catalog (No. 125A) available from Weiskler Thermometer Corp. Included is a complete set of standard temperature ranges and scale divisions for selection of correct instrument and fittings.

Circle No. 105 on Reader Service Card

PICTURED AND DESCRIBED in a new pamphlet are 1958 models of coolers, refrigerators, freezers and ice making equipment. Published by Nor-Lake, Inc., pamphlet also includes description of complete line of equipment and product features.

Circle No. 106 on Reader Service Card

SPECIFIC FEATURES of gas-fired winter air conditioners are given in data sheet available from Thatcher Furnace Co. Also listed are engineering specifications and dimensions.

Circle No. 107 on Reader Service Card

SALES FEATURES of baseboard heating are presented in new illustrated bulletin No. 956 by National-U.S. Radiator Corp. Designed for use as sales aid, the bulletin also contains necessary dimensional and performance data.

Circle No. 108 on Reader Service Card

DETAILED REVIEW of various refrigeration instruments, water regulators, and solenoid valves is featured in condensed trade price Bulletin T-575 from Jas. P. Marsh Corp., Skokie, Ill. From its sales affiliate, Marsh Instruments Co., is a catalog sheet which describes Marsh's "Super-Heat" thermometers.

Circle No. 109 on Reader Service Card

PACKAGED WATER CHILLERS are highlighted in 20-page catalog (EMT-571SEC) available from Drayer-Hanson Co. Product photo, dimensions and performance charts for specifying industrial or commercial applications are included.

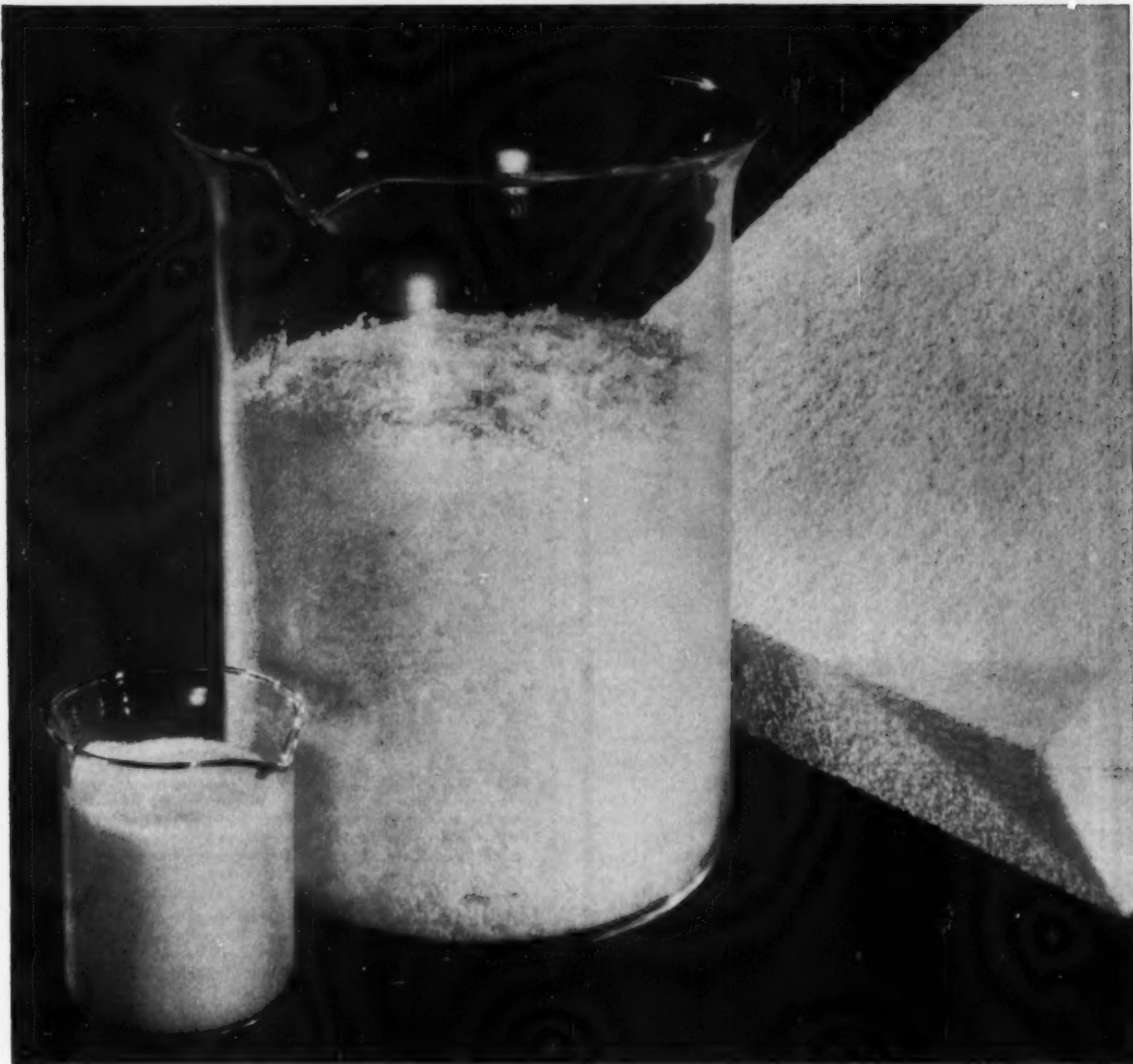
Circle No. 110 on Reader Service Card

ICE CREAM CABINETS designed for installation in customer view are described in catalog No. S-150 by Bastion-Blessing Co.

Circle No. 111 on Reader Service Card

(More Useful Literature on Page 78)

CLOSE-UP OF A MODERN COLD ROOM INSULATION



Amazing new Armstrong Armalite* a lighter, more efficient foamed plastic insulation for cold rooms



This unusually light, extra efficient insulation starts with tiny beads of plastic. They're pre-expanded to forty times their original size, then molded with heat and pressure into strong, resilient boards. Carefully controlled formation produces a closed cell structure that results in the low k-factor of 0.24 at 70° F. mean temperature.

Weight is only 1.25 lbs. per cubic foot, yet this remarkable material has high strength and great resilience. It will "give"

under pressure during installation, then spring back to close joints if contraction occurs even at very low temperatures. Other advantages include excellent stability at temperatures from 300° below zero to 175° F., good moisture resistance, excellent handleability . . . all at low cost.

These are just the high lights. For details send today for the free folder, "Armstrong Armalite." Write to Armstrong Cork Company, 2102 Rumford Ave., Lancaster, Pa.

*TRADE MARK

Armstrong INSULATIONS

Circle No. 61 on Reader Service Card

A MONEY-SAVER!
use a single small-size
branch line with
Taco Super Venturis



You put money in your pocket when you reduce branch sizes; save on copper tubing, on pipe fittings and labor costs. And you can do it easily on most jobs with Taco Super Venturis. Their higher capacities make it possible. Ideal for combination heating and cooling systems. For full information on all Taco Venturi Fittings, write today for Technical Data Sheet TDS5.

Taco

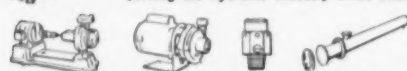
HEATERS, INCORPORATED

1160 CRANSTON ST., CRANSTON, R. I.

Corporate Office: 342 Madison Avenue, New York 17, New York. In Canada: Taco Heaters of Canada, Ltd., 4 Gilead Place, Toronto 2



Serving the Hydronic Industry Since 1920



MP Pump • 170 Pump • Taco-Vent • Heat Exchanger

Circle No. 62 on Reader Service Card

USEFUL LITERATURE...

Continued from page 76

SOLDERING FLUXES for all types of soldering jobs are described in folder (LF123-57) by Lake Chemical Co. Lists practical applications of liquid, paste and stick type flux.

Circle No. 112 on Reader Service Card

EXTREMELY USEFUL DATA on the subject of aluminum sheet has been compiled by Revere Copper & Brass, Inc., New York, in an easy-to-read, 28-page booklet. The two-color booklet explains its advantages and nomenclature is defined. Typical applications illustrated include louvers and ventilators, baseboard radiator fins, freezing compartments, truck bodies, and condensers and evaporators.

Circle No. 113 on Reader Service Card

JUST THE THING for contractors to give to their customers is a full-color booklet (Form No. 955) which explains hydronic perimeter heating from the viewpoint of the housewife. Prepared by National-U.S. Radiator Corp., Johnstown, Pa., the literature describes the firm's "Sunray" cast iron baseboard heat distributors in terms that appeal to the home owner. The decorative advantages of this heating are emphasized.

Circle No. 114 on Reader Service Card

DIFFUSERS, GRILLES and air control registers are colorfully illustrated in catalog designed by Air Control Products, Inc. Purpose of catalog is to help heating and air conditioning contractors show prospects what they are being asked to buy. Also includes prices, selection charts and engineering data.

Circle No. 115 on Reader Service Card

ZONE-CONTROLLED hot-water heating systems are described in new bulletin from Edwards Engineering Corp. Also included are capacities and specifications for gas and oil-fired residential boilers and baseboard radiation.

Circle No. 116 on Reader Service Card

APPLICATION of refrigeration equipment in the chemical industries is described and illustrated in an 8-page bulletin (No. 250) by Frick Co.

Circle No. 117 on Reader Service Card

STEP-BY-STEP selection procedure is given in two-color, illustrated literature from American Blower Div. of American-Standard, Detroit, Mich., on its line of inductor air conditioners for perimeter air conditioning of multi-story buildings. Designated Bulletin 8827, the literature outlines the unit's features, such as installation, adjustments, and controls. A table of basic unit ratings, primary air rating curves, heating and cooling capacity indices, pressure drop curves, and special curves for orifice size selection also are supplied.

Circle No. 118 on Reader Service Card

INTERCHANGEABILITY of component parts for a variety of vertical and horizontal arrangements is illustrated graphically in Bulletin No. C-1100-S104A P offered by Worthington Corp., Harrison, N. J., on its remote packaged air conditioners for industrial applications. This bulletin contains complete specifications and dimensional data. The units are available in three sizes, 15, 20, and 25-ton capacities.

Circle No. 119 on Reader Service Card

HOW TO SELECT the right "Permagum" is the theme of a bulletin about sealing compounds. Published by Prestite-Key-stone Engineering Products Co., St. Louis, Mo., it discusses the general features of the various compounds. Solvent and diluent data is offered and extrusion volume of the many diameters and thicknesses found in both the extruded bead and ribbon forms is studied.

Circle No. 120 on Reader Service Card

ELECTRIC DEFROST UNIT is described in new catalog (14C7a) by Recold Corp. Catalog shows pictures, typical installations, and product features. Also lists dimensions and ratings, and provides a typical wiring diagram.

Circle No. 122 on Reader Service Card

VACUUM PUMPS are described in Bulletin No. 95 published by Beach-Russ Co. Included are product features of combination two-stage pumps, design and construction, dimensions, and specifications. Also lists description of pumping condensable vapors.

Circle No. 123 on Reader Service Card

COUNTERFLOW AND HORIZONTAL gas fired furnace advantages are illustrated in new folder No. LL-179 by Airtemp Div., Chrysler Corp. Also gives input and output ratings, and features of new Hi-Lo Boy gas fired furnaces.

Circle No. 124 on Reader Service Card

MORE EXPOSITION WINNERS

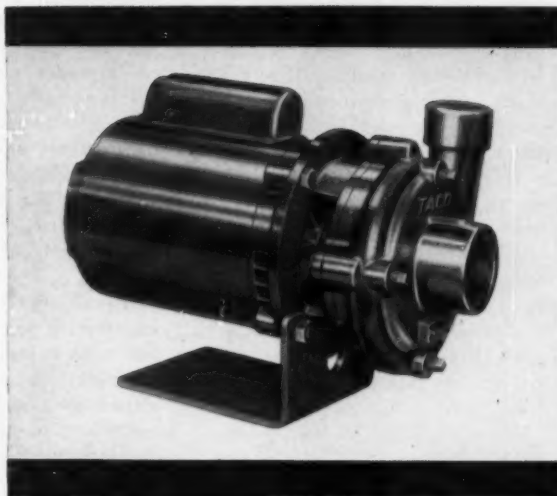


SURROUNDED by representatives of Viking Copper Tube Co. (President Bailey Ozer is at far right), Miss Viking point out the sign announcing the winner of the color TV set offered as the prize in the contest sponsored by Viking in its booth at the 10th Air-Conditioning & Refrigeration Exposition at Chicago. Winner was Allan Trask of International Heater Co., Utica, N. Y. He missed by only 3" in guessing the correct length (8790'3") of the coil of copper tubing displayed.



RACING AGAINST TIME, these two servicemen compete in the contest staged by Alco Valve Co. in its booth at the ARI Show in Chicago. The contest consisted of taking apart an Alco thermo valve and putting it together again. Winners, who were awarded superheat potentiometers, were: Owen Wright, Engineering and Refrigeration, Inc., Jersey City, N. J.; Ray Schrader, Larkin Coils, Atlanta, Ga.; Ken Carter, K. G. Carter Refrigeration Service Co., Winston-Salem, N. C.; and Daniel Stearns, Resco Refrigeration Co., Chicago. Average time of the 607 contestants was 1 minute 37 seconds; average time of the four winners was only 44 seconds.

A MULTI-PURPOSE, POWER PACKED CENTRIFUGAL PUMP TACO 170



Experience, research, quality control production . . . standard with Taco in the long-time manufacture of domestic hot water heating circulators . . . are the basic reasons why the new 170 series pumps fully meet the precise requirements for all installations. Note the following features that assure peak performance:

MOTOR—Motors regularly furnished are 3450 R.P.M., 60C, Single Phase, with permanently sealed ball bearings. Motors with other characteristics available.

MECHANICAL SEALS—2 piece type for easy replacement; self-adjusting, self-lubricating.

IMPELLER—Closed type. Balanced for smooth, noiseless, efficient operation.

VOLUTE—Fine-grained cast iron with brass wearing ring. Designed for four position discharge.

MOUNTING—Heavy stamped steel base—yet flexible enough to permit slightly out of line connections without damage to pump or noisy operation.

LUBRICATION—None required.

The Taco 170 series is light in weight, low in cost, extremely compact, available in several sizes . . . it's the pump that performs best.



TACO HEATERS INCORPORATED

1160 Cranston Street, Cranston 9, Rhode Island
342 Madison Ave., N. Y. 17, N. Y. • 4 Gilead Place, Toronto 2, Can.

Send No. 170 Pump Technical Data Sheet to:

Name _____

Address _____

Circle No. 63 on Reader Service Card

PAPERWORK...

Continued from page 44

umns opposite the name of each account. Any errors in arithmetic on the part of the collector can be caught when these entries are posted to the master ledger. Thus this master book provides a double check on the individual customer sheets in the route folders.

If you keep all these types of records, make your collections regularly, and exercise closest possible control over every phase of your meter operations you will be able to go to a bank or finance company and get a favorable rate on your meter financing. Unless and until you can do this, you'll simply be giving your profits away.

For example, if you charge your meter customers 6% discount and pay your bank or financing institution 6% simple interest on your meter paper, you make the difference, which amounts to more than 12%.

Proper supervision, good installation, adequate customer education — these are the key factors in a sound program of meter plan selling. Here are some pointers, based on our own operations, that may prove helpful to you if you decide to merchandise commercial refrigeration equipment in this way:

Sell new refrigeration equipment to a customer on the basis of the added profit it can bring him. Then sell him the meter plan idea on the basis of how easy it is to pay for the equipment by putting in just a few quarters a day.

We keep our meter plan operation completely separate from the balance of our commercial refrigeration activities. Our meter plan salesmen specialize in this type of business.

We pay them a good salary plus a small commission. We've found that this makes them more selective in picking their customers. On a drawing account or high commission basis they'll tend to sell anybody and everybody, and not worry about repossession.

We employ one full-time supervisor who also is salaried, with a small over-ride on sales. He spends his time working with the salesmen

and also is available for trouble shooting.

To get the highest down payment possible, we offer our salesmen an incentive of a 5% bonus based on this down payment. We show them how much this can mean to them in added revenue on a yearly basis.

Make sure your salesmen work with customers to educate them on the proper use of meters. Make sure the customer understands that the meter needs quarters *every* day, and that bent coins won't work. Proper customer education by the salesman can cut down costly service calls.

Install meters properly. This is important if you want to keep customers from jumping the meter so that they can operate the equipment without inserting coins. We subcontract to a qualified electrician the work of tying in the meters to the equipment. This costs us \$40 to \$50, but is well worth it.

Collect from the meters regularly, at least every 28 days. On problem accounts we make it a point to collect about every 14 days.

Meters make it possible to keep on top of collections. If a customer is running behind on payments, you know it at the end of the first month. If he's still behind at the end of the second month, without valid reason, you might as well pull the equipment — you'll never get paid for it.

If a customer falls behind, make every effort to get the balance in cash when you collect from the meter. If the reason for delinquency is valid, however, you can simply adjust the meter gears to increase the daily payments required until the account is brought up to date.

Shortages must be reported immediately. On major shortages, the collector is instructed to call the office immediately. We then follow up with the salesman involved or with our supervisor. If that doesn't work, and the customer stays in business, we then resort to legal collection action.

Our collector makes about 20 calls a day. The money from the meter is counted manually in front of the customer and is wrapped on the spot. The collector initials the wrappers and brings them back to the office, where he places them in special metal containers designed

to hold \$500. These are then taken to the bank.

All persons involved in our meter program — salesmen, supervisor, collector, and even myself — are bonded for protection against any possible loss.

Service on meters is handled by our regular refrigeration servicemen. It presents no problems that can't be handled by a qualified mechanic.

It's important to maintain an adequate stock of meters. If serviced properly they can be used over and over again.

Good meter repair also can do a lot to cut down service calls. Servicemen, too, can be very helpful in educating customers on proper meter use.

Strangely, one of the biggest meter service problems is caused by roaches. Because of the operation of the timing motor the meter box is always warm. This warmth attracts roaches. They crawl in through even the tiniest openings and jam the meter gears. For this reason, a standard item of equipment for all our collectors and servicemen is a can of roach powder.

MILWAUKEE ELEC. OPENS SEATTLE BRANCH OFFICE

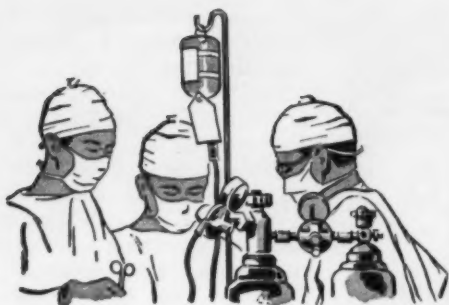
Milwaukee Electric Tool Corp. announces the opening of a new factory sales service branch in Seattle, Wash. The new branch will handle the firm's tool sales and repair service for all of its distributors and their customers in the northwest area.

Jim Gray, formerly Milwaukee's sales agent in the Pittsburgh area, has been named branch manager. Frank Martin will be in charge of tool service and repairs.

YORK ENTERS AUTO AIR CONDITIONING FIELD

York Div. of Borg-Warner Corp. has purchased Lehigh Mfg. Co.'s automotive air conditioning compressor design and related manufacturing facilities in Lancaster, Pa.

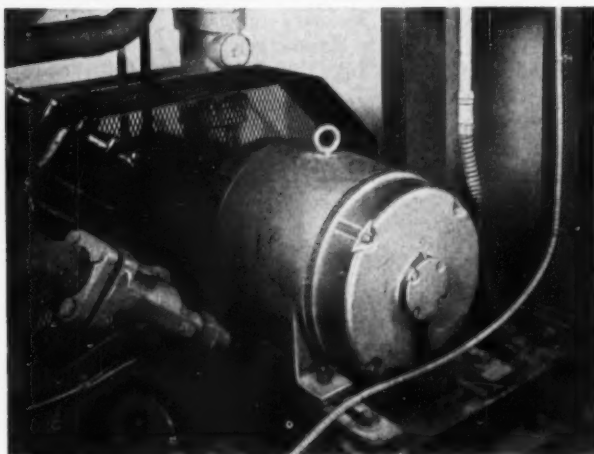
**BUY FROM YOUR
REFRIGERATION WHOLESALE**



**Blood Banks
must
NEVER
FAIL...**



**Vital refrigeration units in St. Louis Blood Bank
are powered by Wagner Motors**



This 30 horsepower Wagner high torque, open type motor drives the refrigeration unit for the blood storage room in the St. Louis Blood Bank.

Wherever there is a motor application of a critical nature—even vital to life itself—Wagner Motors can be relied upon to fulfill their responsibility of completely dependable operation. In St. Louis' Blood Bank, for example, you'll find many Wagner Motors at work—driving the all important refrigeration units that keep the blood at proper storage temperature, that operate air conditioning compressors, that move heated and cooled air to keep the building comfortable in winter and summer.

Whether your motor application is vital to life or not, you can depend on Wagner Motors for efficient, reliable operation.

The complete line includes motors from $\frac{1}{8}$ to 600 hp, singlephase or polyphase, in a wide variety of enclosure types and mountings. Let your nearby Wagner Sales Engineer help you select the right motors for your needs. Call the nearest of our 32 branch offices, or write direct.

Support your Local Blood Program by donating blood *regularly!*



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& AIR CONDITIONING • FEBRUARY, 1958
Circle No. 64 on Reader Service Card

CONTRACTORS

New Policy Pledges Full RACCA National Support to Help Solve Local Labor Problems

A NEW STATEMENT of national policy has been issued by Refrigeration and Air Conditioning Contractors Association. This statement, approved by the directors after six months of committee study, in general reaffirms the policy formed by the association several years ago, but makes some significant changes in the first two sections dealing with labor relations and apprentice training.

Complete text of these revised sections follows:

"A. It is fundamental that the settlement of problems which may arise between the employee and the employer, must be based on consideration of the interests of the public, together with the interests of the employer and the employee. This association is obligated to exhaust all possibilities and explore all means for the successful and equitable settlement of these problems.

"The National Association will make all effort possible to assist the local associations in solving their labor management problems, however, the National Association recognizes local autonomy and encourages the local associations to handle all matters relating to collective bargaining agreements. The National Association will assist only when requested and then will only make recommendations and will not act as a local bargaining agent.

RACCA National recognizes there are many matters pertaining to the industry which must be solved on a national level, therefore this association will work in cooperation with major labor groups whose principal function is to install, service, etc., equipment of the nature handled by our association. For this cooperative effort a National Joint Labor Committee will be appointed, which committee shall be representative of the various sections of the country involved in the refrigeration and air conditioning industry.

"B. The future of the industry depends on the proper education of the journeyman and apprentice mechanics active in the refrigeration and air conditioning industry. It is the

policy of the refrigeration and air conditioning industry to promote apprentice and journeyman training programs in cooperation with Federal, State and local laws and local associations."

Other sections of the policy statement remain virtually unchanged. They cover such matters as: relationship between the refrigeration and air conditioning contractor and the general contractor, architect, engineer, federal agencies, manufacturers, and suppliers; specific association functions designed to promote the welfare of members; and assistance in the proper design and installation of systems.

RACCA ADDS THREE NEW WESTERN GROUPS

The Refrigeration and Air Conditioning Contractors Association of Denver, Colo., has become affiliated with the national organiza-

tion, according to an announcement from RACCA (National) headquarters.

The Denver group is composed of the following eight firms: Air Engineering, Inc.; T. C. Alexander Commercial Refrigeration Co.; Arctic Refrigeration Co., R. A. Haines & Co.; Refrigeration Service Co.; Richey's Refrigeration Service Co.; Snodgrass & Smith Co.; and Tolin Refrigeration Co.

National affiliation of two California contractor groups also has been announced. These groups are the Refrigeration and Air Conditioning Contractors Association of Southern California, Inc., and the Inland Air Conditioning and Refrigeration Contractors Association, Inc.

DON L. KISSELL HEADS RACCA OF SO. CALIF.

Don L. Kissell, Kissell Refrigeration Corp., has been elected president of Refrigeration & Air Conditioning Contractors Association of Southern California.

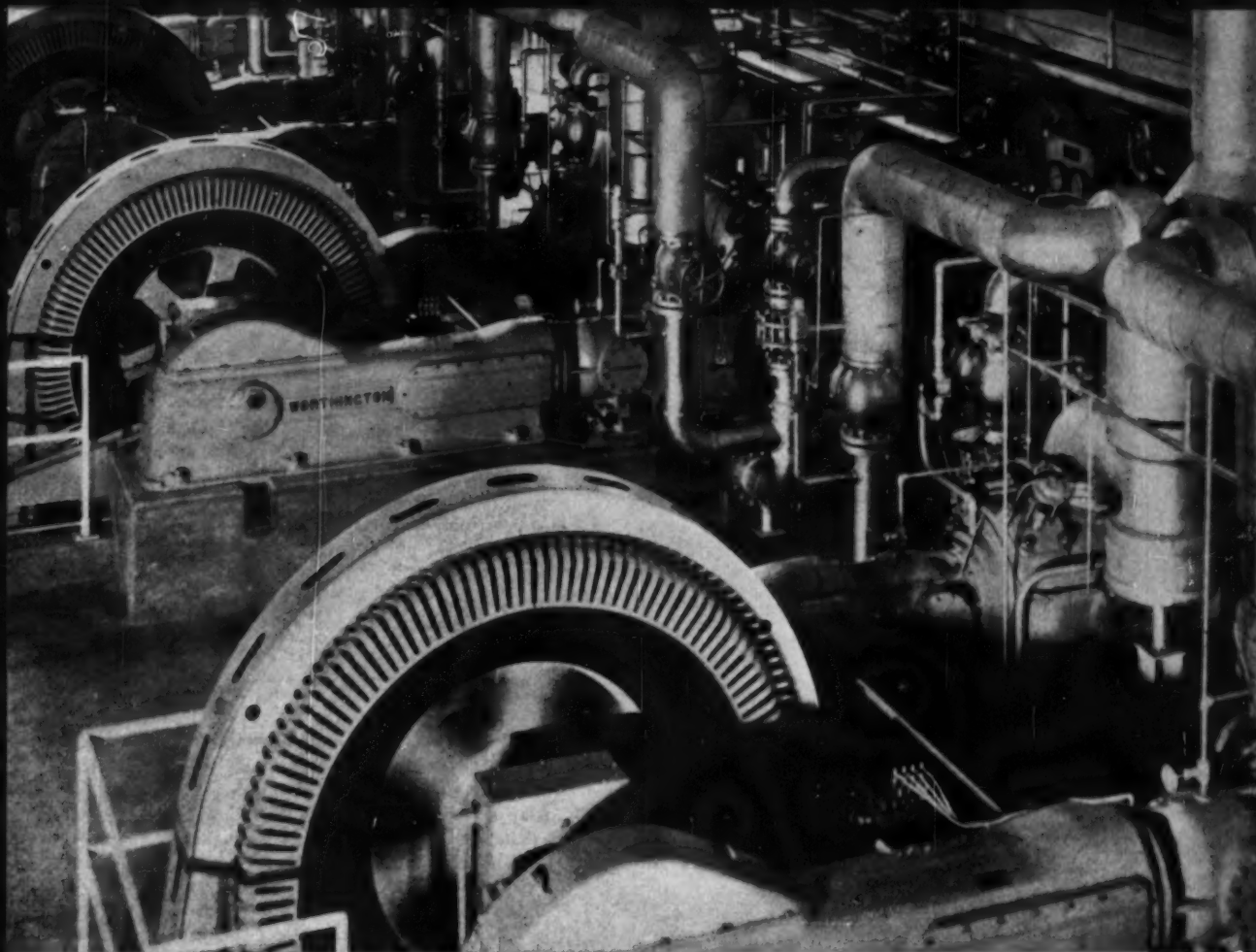
Others elected were: Jack K. Carney Commercial Refrigeration, vice president; and Herb P. Schuch, Vernon Refrigeration Co., secretary-treasurer.

Appointment was made for the Joint Journeyman and Apprentice Training committee under the new labor agreement. The board of di-

Continued on page 84



LINING UP to congratulate Charles L. Walling (left) of Los Angeles, elected president of Refrigeration and Air Conditioning Contractors Association at the group's 12 annual convention, are: Art Palen, Minneapolis, a former president of the association; Armand Cowan, Miami, newly elected first vice president; Tom Alexander, Denver new director; and Ray Kromer, Cleveland, RACCA executive vice president.



Help your compressor give what its maker promised: **CLEAN, DEPENDABLE PERFORMANCE**

Use the compressor oil that almost every manufacturer recommends—Texaco Capella Oil Waxfree.

No matter what the refrigerant, Texaco Capella Oil Waxfree assures clean compressor performance. For example, even at temperatures as low as minus 100°F., waxout does not occur in systems where a miscible-in-oil refrigerant, such as one of the Freons, is used.

Texaco Capella Oil Waxfree has exceptionally low haze and floc temperatures. It has extra stability and a high resistance to oxidation. It is moisture-free, won't foam and is compatible with all refrigerants.

Texaco Capella Oil Waxfree is *designed* to assure clean, dependable compressor performance.

There is a complete line of Texaco Capella Oils Waxfree—all shipped in refinery-sealed containers to protect purity and quality.

A Texaco representative can help you choose the proper one. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

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The Texas Company, 135 East 42nd Street, New York 17, New York.

TUNE IN... Metropolitan Opera Radio Broadcasts Every Saturday Afternoon



LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

rectors appointed as representatives the sub-committee which negotiated the labor agreement, Charles Walling, National Refrigeration Sales Co.; Carney; L. P. Jacobsen, York Corp.; and Schuch.

Committee chairmen announced were: Budget, Schuch, chairman; Service, Sam Elster; Joint Industry Council, Elster; Ordinance, Al Hanson; Jobbers and Manufacturers, Hanson; Industry Shows, Don Beck; Membership and Attendance, Dale Missimer; Program, Bob Savage; Construction Employers Council, Bill Robinson; and Grievance, Beck.

3 SEEK MEMBERSHIP

Three new applications for membership were presented during the recent RACCA convention in Chicago. They were Howard E. Owens, H. E. Owens & Co., East St. Louis, Ill.; Ralph W. Lampie, Richmond, Va.; and M. A. Leoni, Modern Refrigeration Co., Cedar Rapids, Iowa.

2 N. C. GROUPS OFFER REFRIGERATION COURSE

A five-day refrigeration short course will be held in Raleigh, N. C., Feb. 17 through 21. Cosponsors are the North Carolina State Board of Refrigeration Examiners and the North Carolina Refrigeration Trade Association.

The course offers a review of fundamentals of refrigeration theory and application practices. There also will be lectures and demonstrations on heat transfer and fluid flow of refrigerants in piping.

The mechanical engineering department through the College Extension Div. of North Carolina State College will conduct the course. Details can be obtained by writing to that school.

AIRTEMP DEALERS WORK FOR ORANGE BOWL TRIP

Airtemp air conditioning dealers watched the TV showing of the recent Orange Bowl game with special interest. Many of them will

receive expense-paid trips to the game next year.

An incentive campaign will make this possible. Dealers buying a specified quota of cooling or heating equipment each month for 11 months from their Airtemp distributor are eligible.

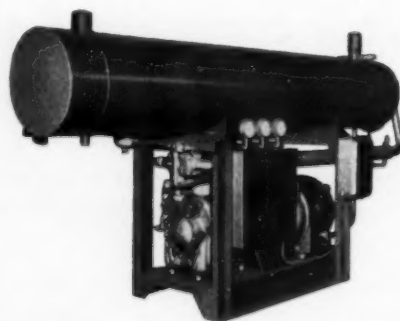
Dealers also can earn special prize points for each proposal they submit to a prospective customer. These points will be redeemable for merchandise awards.

Overall winners will fly to Miami, and stay at one of the luxurious hotels. They will see the parade and football game. Later they will be guests of honor at an Hawaiian Laua.

RECORD CORP. TO OPEN TWO NEW WAREHOUSES

Record Corp. has announced the opening of warehouses in Georgia and New Jersey.

The Georgia warehouse will be located in Atlanta and New Jersey warehouse currently is in the process of being selected.

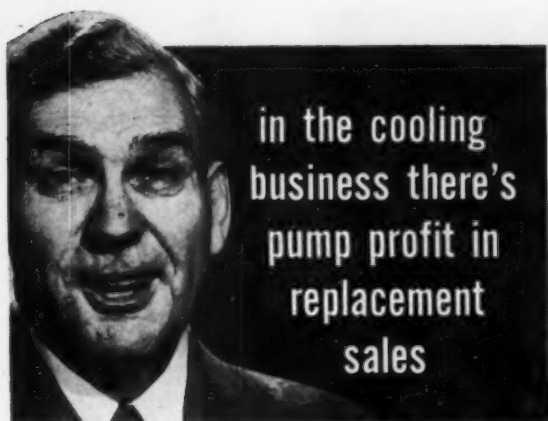


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...* direct drive packaged chillers in capacities 20 thru 125 tons

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another outstanding new line — Acme Flow-Cold packaged chillers, capacities 3 thru 20 tons



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business there's
pump profit in
replacement
sales

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Ideal for all cooling-tower applications
in air conditioning and refrigeration

Ruggedly built for continuous duty, the general duty Myers Centri-Thrift features an all bronze impeller, removable wearing ring, and stainless steel shaft. The line offers a full range of sizes: from 1" x 1 1/4" through 2" x 2 1/2" and from 1/2 to 7 1/2 horsepower. Capacities to 240 GPM, heads to 140 feet.



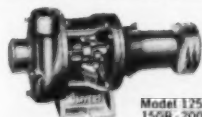
Model 150 M 200 M
Shown with rotary seal (available with stuffing box)



Model 125 M 150 M
Shown with stuffing box (available with rotary seal)



Model 00 M—Rotary seal only



Model 125B 150B-200B
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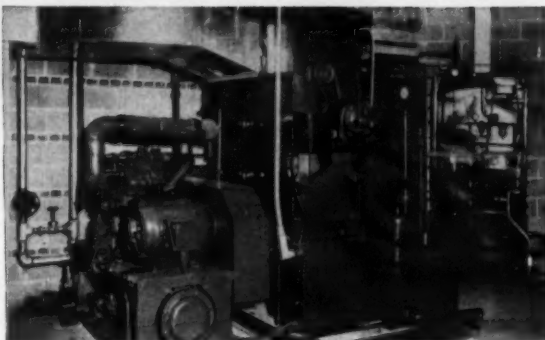
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Best and most effective because . . . it removes moisture as a separate function from cooling or heating and so gives a precise result constantly and always. Niagara machines using liquid contact means of drying air have given over 20 years of service.

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Easiest to take care of because . . . the apparatus is simple, parts are accessible, controls are trustworthy.

Most compact, taking less space for installation.

Inexpensive to operate because . . . no re-heat is needed to obtain the relative humidity you wish in normal temperature ranges and frequently no refrigeration is used to remove moisture.

The cleanest because . . . no solids, salts or solutions of solids are used and there are no corrosive or reactive substances.

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112 and 121. Address Dept. C.R.-2

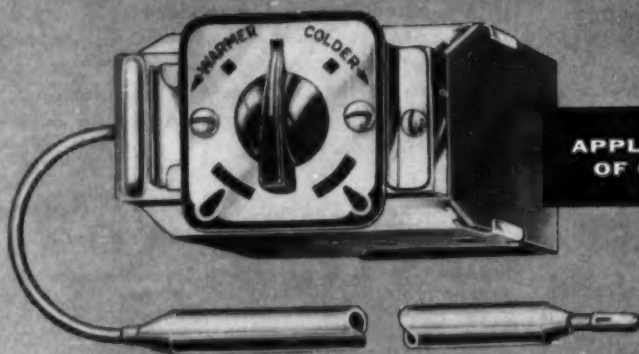
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District Engineers in Principal Cities of U.S. and Canada

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RANCO C17-100 CONTROL



APPLICATIONS OF C17-100

Versatile Air Conditioning Control

You'll find a versatility in the Ranco C17-100 Control which adapts to coordinated control of heat pump systems, compressors, reversing valves, circulating fans, resistance heaters and other equipment. Two single-pole, double-throw switches operate from a single temperature-sensitive, liquid-filled element and can be adjusted to cut in simultaneously or with staggered differentials.

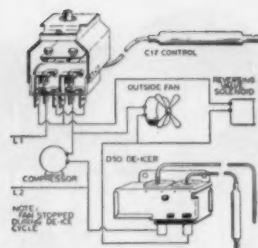
In heat pump operation, the C17-100 controls the temperature demands in both heating and cooling phases, as well as the position of the reversing valve. Changeover from heating to cooling (and the reverse) is fully automatic, and an "off" period is automatically available during which compressor is shut down prior to the changeover.

Wiring diagrams at left show a few of the uses for C17-100 in line voltage operation. The control can also be used for pilot duty in conjunction with low voltage (24 volts) relays or contactors and in other applications. For full details on how the C17-100 fits into your product, write Ranco Inc., Columbus, Ohio.

World's Largest
Manufacturer of
Refrigeration Controls

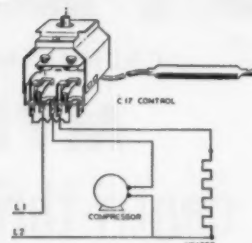


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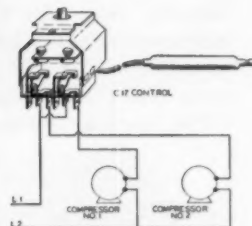
For Reverse Cycle with D50 De-Icer

Used with Ranco D50 De-Icer and V26 Reversing Valve to give completely automatic control in both heating and cooling phases. Automatically stops outside fan motor during de-ice cycle.



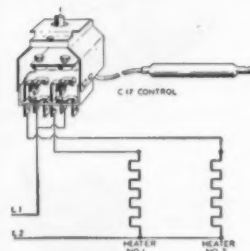
For Compressor Cooling and Electric Strip Heating

This suggested wiring scheme is for an air conditioner where the refrigeration system is used for cooling and where the unit is not reversed for heating, but where strip heaters are used during the heating cycle.



For Step Operation of Two Compressors

This arrangement gives step operation depending upon temperature demands, specifically for multiple compressor systems. Gives control by load demands and prevents both compressors from cycling simultaneously.



For Step Operation of Two Heaters

Acceptable wiring for use of C17-100 used to control step heaters in conjunction with heat pump applications or independent space heating. Preset control temperatures cut in auxiliary heating according to temperature drop at inside coil.

Here's How

PROFITABLE SERVICE AND INSTALLATION PRACTICES

Moisture Control Can Cut Your Service Calls

MOISTURE IS THE WORST ENEMY of any refrigeration system. This fact has been stated many times in many ways, but it never can be repeated too often or emphasized too strongly.

Surveys show that approximately 80% of all service calls are due — either directly or indirectly — to moisture. This makes it pretty clear that a good filter-dryer is cheap insurance for any refrigeration system.

In a clean, dry, acid-free system there is nothing to filter. Moisture is the key to corrosion solids and oil sludges. If moisture levels are low enough, the acidity

remains low and these troublesome solids do not form.

For many years the research laboratories of Ansul Chemical Co. have been analyzing solids found in operating refrigeration systems. A vast amount of valuable information concerning the effect of moisture in these systems has been accumulated from the hundreds of analyses performed. A chart summarizing the results of some of this analytical work is presented here.

Solids removed from refrigeration systems have always had an air of mystery about them, simply because their cause, nature,

an effect was not thoroughly understood. Continuing research has done much to clarify this situation and to point up the fact that both the problem and the solution actually are fairly simple.

As shown in the accompanying chart, the various kinds of solids are easily classified both as to type and origin. They are: (1) free metals; (2) corrosion solids; (3) metal oxides; (4) oil sludges; (5) ice in capillary tubes, expansion valves, or coils; and (6) all other extraneous solids.

The methods of cleaning up these solids and preventing their

Continued on page 88

TYPE OF SOLID	ORIGIN	REMEDY
1. Free Metals - Powdered iron, bronze or copper. Chips of copper. Solder.	Compressor wear or incomplete cleaning of compressor body. Chips of copper may result from sawing copper lines or raw edges broken off from flared joints. Origin of solder is obvious. Check for metallic iron with magnet. Corrosion solids do not respond.	Remove from system with filter drier or plain filter.
2. Corrosion Solids - Chlorides of iron, copper and aluminum. Occasionally fluorides of those metals.	Action of acid on these metals. Acid may result from moisture, oil breakdown, hermetic motor burn out, use of carbon tetrachloride or similar chlorinated solvents, or from heat breakdown of the refrigerant by soldering on lines containing refrigerant vapor.	Filter out solids with filter drier. Remove acid and water with proper type filter drier.
3. Metal Oxides - Iron oxide and copper oxide.	Iron oxide (iron rust) results either from allowing equipment to stand open to moist air or, most commonly, from liquid water circulating in the system along with the refrigerant. Copper oxide results from heating copper lines without passing an inert gas, such as nitrogen, through the lines.	Remove from system with good filter drier. Water must be removed along with the iron oxidation to prevent formation of more iron oxides and corrosion solids. Remove copper oxides with filter or filter drier.
4. Oil Sludges - Vary in consistency from brown oil to dry powder or tarry mass.	Result of heat in the presence of moisture and acid. May occur even if system is dry and acid free if compression ratio is too high — substantially above 10:1.	Follow procedure in "Hermetic Motor Burn Out" bulletin. Based on flushing followed by filtration, acid removal and moisture removal. If oil is not too bad, it can be cleaned up by the proper activated alumina drier.
5. Ice in Capillary Tubes, Expansion Valves or Coils.	System contains more moisture than the refrigerant can hold in solution at the expansion valve, capillary tube or coil temperature.	Dry system with good drier below freezeup and corrosion range.
6. All Other Extraneous Solids.	Usually carelessness. Occasionally find desiccant or core sand, but this is very unusual.	Good filter or filter drier.

We Mourn The Loss

of Our

Esteemed Associate

Newton L. Gold

January 16, 1958

COLDIN CABINET CO., INC.

occurrence are simple. They can be summed up like this:

All involve filtration of solids, adsorption of water and acid by a desiccant, and adsorption by the desiccant of oil decomposition products from the oil in the beginning stages of breakdown.

In many cases analyzed, oil breakdown has progressed far enough to impair its lubricity. It is difficult to tell when the breakdown has reached this point. For this reason, Ansul chemists usually recommend an oil change when oil breakdown is evident.

Much money is spent to put controls and protective devices on equipment for the safety of the compressor. In many cases these devices are never used. Yet often no protection is provided against the most common danger of all—moisture.

Good filter-driers are readily available, relatively inexpensive, and extremely effective. Be sure to use them if you want to keep your refrigeration systems operating with a minimum of service problems.

PAYNE OPENS NEW PLANT IN CALIFORNIA

Opening of a new plant facility and home office of Payne Co. has been announced. Located in La Puente, Calif., the new plant is reported to have more than 500,000 sq. ft. of manufacturing, engineering, and office space. It was constructed at a cost in excess of 6 million dollars.

Included in the plant are over two miles of automatic conveyor systems for the handling of parts and product components. A furnace for the firing of glass-lined heating elements at temperatures in excess of 1400 F also has been constructed within the plant.

VICTORY METAL BUILDS RESEARCH LABORATORY

A new research laboratory has been completed for Victory Metal Mfg. Corp., Plymouth Meeting, Pa.

The laboratory is adjacent to the \$1,000,000 plant built two years ago which manufactures the Vimco, Sta-Kold and Sno-Queen line of refrigerators.

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HERMETIC COMPRESSOR
OPENER

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MULTIPLE CIRCUIT
AT NO ADDITIONAL COST**

**Positive Automatic Control
System For Winter Operation**

The most complete air cooled condenser line offered. **BLADE FAN TYPE** in capacities from 2 to 40 ton for commercial and heavy industrial installations. **WHEEL TYPE BLOWERS** from 2½ to 15 ton for residence, hospital or any place where utmost in quietness is necessary.

Where water supply is taxed or limited, or water corrodes water cooled condensers, the sensible answer to your air conditioning or refrigeration condensing problem is a **WITT AIR COOLED CONDENSER**.

Same units applicable for indoor or outdoor installation. Outstanding results and the price is unbelievably low.

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SLUDGE . . . ALGAE
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acid inhibitor . . .

A must for those who prefer to "make their own" cleaner with liquid acids. VAPCO-HIB added to acid inhibits it without effecting its efficiency and provides outstanding protection to metals including GALVANIZE. Ask for VAPCO-HIB by name. 8 and 32 oz. bottles and bulk.

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ABSOLUTE, UNVARYING STRAIGHTNESS

A battery of straightening machines keeps VIKING Copper Tube absolutely, unvaryingly straight. In addition, these machines precisely temper the tube, imparting to it the correct surface hardness . . . assuring ease in fabrication resulting in substantial savings in time and labor.

ELECTRONIC QUALITY CONTROL

An electronic "Brain" detects the minutest flaw or imperfection in the walls of VIKING tubes . . . automatically discarding defective tubes. Trouble-free fabrication is virtually guaranteed — operational failures almost completely eliminated.

At VIKING, precision is a companion to production. The drawing tools used in the manufacture of VIKING Copper Tube are of scientific design based on the results of years of research and experience. They are made from the finest materials available to modern technology for the express purpose of drawing thin wall copper tube to fine tolerances.

These tools are made by experts to the most rigid specifications and with the same care and craftsmanship given to fine jewelry. They are then used in a carefully calculated series of operations designed to give the highest quality and degree of uniformity.

The techniques employed have made VIKING Copper Tube consistently superior in quality, fine tolerance and uniformity. As a result, more and more manufacturers of air conditioning and refrigeration units and coils are turning to VIKING as their principal source of supply for thin wall copper tube.



VIKING

COPPER TUBE CO.

CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBE

Circle No. 2 on Reader Service Card

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COMMERCIAL REFRIGERATION & AIR CONDITIONING has franchised 52 wholesalers, employing 365 outside salesmen, covering 110 major trading areas of the country. This franchise permits them to have the magazine sent to their customers and prospective customers. The wholesaler furnishes COMMERCIAL REFRIGERATION & AIR CONDITIONING with a list of those individuals to whom he wishes the magazine sent. In most instances, these individuals are the purchasing influence.

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